

## **BMP #4 Construction Site Runoff Controls**

### **#4-1, Develop & Present Ordinance to Require Erosion & Sediment Control Plan (to include construction material management plan and plan review for sites disturbing more than one acre) – (BMP Completed)**

**Current Status:** This was included in the draft Ordinance and the Rules and Regulations that was presented in last year's report.

**BMP Effectiveness Evaluation:** Even though this requirement has been developed and presented, it has yet to receive final approval from the Board of Mayor and Aldermen. Currently any request or enforcement could be challenged as we do not have the ordinance in place.

**Future Goals:** The same goal would apply here as that outlined in BMP #3-1.

### **#4-2, Develop Procedure for Receipt and Consideration of Public Comment –**

**Current Status:** The attachments outlined in BMP #2-1 illustrate how the City processes public comment. All comments are taken seriously, the citizens are contacted, the issues discussed and if the suggestion is sound, incorporated into the storm water management program.

Manchester will continue to receive suggestions via the website, phoned comments, statements made at hearings and by letter.

**BMP Effectiveness Evaluation:** The process used during the public hearing regarding the storm water ordinance was well received and most of the comments were incorporated into a new draft of the ordinance. This process is working well.

**Future Goals:** The goal is to continue following the City's protocol through the adoption of the Storm Water Ordinance and then apply this same protocol for public review of the proposed Regulations.

### **#4-3, Check Erosion Control Measures and Construction Material Management on Site Inspection**

**Current Status:** The City continues to use the checklist as outlined in last year's report. This inspection sheet has proven to be a comprehensive document when referring back to conditions that existed at a particular time during project development. The inspection sheet includes information regarding the site, historical rainfall for the past few weeks, and the conditions of BMPs.

The inspection of BMPs is gauged against the Erosion and Sediment Control Plan that was submitted by the developer during the site plan approval process. Any deviance

from the plan is noted and a clean typed copy is made from the field inspection notes, signed by the inspector, and forwarded to the contractor for action. Pictures taken at the site are referenced by link on the sheet and can be easily retrieved in the computer to evaluate the current findings with those from previous reports.

**BMP Effectiveness Evaluation:** The previous modifications to the field inspection checklist have provided the City with a detailed list of items to inspect during site visits. This checklist works well during field investigation.

**Future Goals:** The future goal is to continue using this inspection checklist during site visits, document variances and violations from the approved plans, verify these failures via digital photographs, and continue to compile a site folder for each approved project within the City of Manchester.

## **BMP #5 Post-Construction Stormwater Management in New Development & Redevelopment**

### **#5-1, Develop Ordinance to Require Runoff Controls for New & Re-Development for Projects Disturbing > One Acre**

**Current Status:** This ordinance will be part of the overall Ordinance and Regulations that were drafted for BMP #3-1. Runoff Controls are outlined in Section 4, General Permit Provisions, of the Ordinance and more detailed in the corresponding section of the regulations.

**BMP Effectiveness:** This BMP is only as effective as voluntary compliance at this stage by the developers and contractors. Once the Ordinance and Regulations are approved the BMP should be highly effective.

Manchester will await the release of the detailed "Post-Construction Guidance" document that the EPA is developing in conjunction with the Center for Watershed Protection. The criteria that applies to Manchester's program will be adopted within the Storm Water Regulations.

**Future Goals:** The future goal is the same as that which is outlined in BMP 3-1.

### **#5-2, Recommend a BMP Manual for Use by Planners and Developers**

**Current Status:** This is outlined in the draft Regulations and outlined in Section 6. It references the following manuals:

- 6(A)(1), the New Hampshire Department of Environmental Services Sediment and Erosion Control Manual, "Green Book" (also known as the Rockingham County "Storm Water Management and Erosion Control Handbook for Urban and Developing Area");
- 6(A)(2), City of Manchester's "Standard Specifications for Road, Drain & Sewer Construction";
- 6(A)(3), "Innovative Stormwater Treatment Technologies" – Best Management Practices Manual NHDES, May 2003;
- 6(A)(4), and the "New Hampshire DOT Guidelines for Temporary Erosion and Sediment Control and Storm Water Management" – NHDOT Bureau of Construction; as reference manuals.

**BMP Effectiveness:** These references are voluntary guidance. The manuals can be an effective approach as most New Hampshire contractors are familiar with the contents of these manuals and refer to these guidelines when developing their sediment and erosion control plans.

**Future Goals:** To review the possibility of having all the BMP references incorporated into one document.

## **BMP #6 Pollution Prevention/Good Housekeeping for Municipal Operations**

### **#6-1, Install Silt Fence Around Snow Dump Area**

**Current Status:** Silt fences are currently erected around the snow dumping areas in Manchester. The condition and status of these fences is verified during the month of November. The City has purchased a snow melter and used it over the 2004/2005-winter season. The 2005/2006 season has been a very mild with little snowfall. Rain was the predominant form of precipitation this winter. Due to this the snow melter has not been used this winter.

When the snow melter is used it results in less snow being stockpiled throughout the winter resulting in less stress on the erected snow fences. The snow melter also prevents any sodium chloride in the snow banks from reaching the river as the melt water is discharged to catch basins and sewers in the city's combined sewer areas. This melt water goes directly to the plant. It is believed that some of the sodium chloride is retained in the sludge and not passed through the treatment process.

**BMP Effectiveness:** The silt fence keeps the trash and sand that is collected with the plowed snow from entering the waterways. The big plus is the snow melter. This has reduced overall stock piling of snow, the intensity of the sodium chloride pollutant to the river and reduced the peak snow runoff volumes in the congested areas of the City where the melter is used.

**Future Goals:** Continue with the existing program and use the snow melter to its full potential.

### **#6-2, Continue Catch Basin Cleaning Program, Including Priority Catch Basins**

**Current Status:** The City has placed the catch basin cleaning program on a high priority listing well before the Storm Water Phase II program was initiated. The City contracted to have 1,200 catch basins cleaned by a private company during the 2005/2006 fiscal year. As of the writing of this report, almost 400 basins were cleaned with the rest to be completed before June 15th. The cost for this contract is \$33,000. A contractor report is included as Attachment R.

There is a listing of priority catch basins adjacent to the Urban Ponds and in trouble areas within the City that must be inspected semi-annually, and cleaned if warranted. These basins must remain free of large amounts of debris to assure a reduced pollutant load to the ponds.

The catch basin cleaning listing completed by municipal crews is included as Attachment S. The catch basins surrounding the urban ponds receive top priority.

**BMP Effectiveness:** The process worked well last year and continues to keep the City ahead of their catch basin cleaning issues around the ponds. In the process we are learning the problem areas within the City and developing a tracking list to put these problem areas in the forefront of inspection. The problem areas are usually learned through calls and complaints by residents. This year's listing of catch basin problem areas is included as Attachment T.

We track sewer calls to determine if roots or other maintenance issues are the cause of the blockages. The log of sewer back up calls and the findings is included as Attachment U.

The sewer problem areas are noted and inspected on a minimum annual basis and sometimes more frequently. Approximately 50% of the City's sewer system is combined and when there are problems with the combined sewer lines, there are problems with the drainage in those systems. The sewer problem areas listing is included as Attachment V.

**Future Goals:** To continue to prioritize the urban pond catch basins for cleaning and to develop a reliable listing of trends for problem catch basins throughout the city. To continue the financing of the contract with the private contractor to clean additional catch basins within the City.

### **#6-3, Sweep Streets Three Times Annually**

**Current Status:** The City continues to follow a schedule of street sweeping that was presented in the first year's report. This year, due to the mild winter, the street sweepers have gone out earlier than in previous years. Street sweeping has continued on and off throughout the winter. This will provide additional street sweeping and removal of sand before discharge to the catch basins during this winter season between storms.

We did not meet last year's goals of developing a procedure to measure the amount of sand collected. This was due to the fact that the street sweepers go out to sweep, independent of the sand applied within Manchester, on a particular schedule. Most of the sand found on City streets comes from winter sanding and some small amounts of sediment from erosion on residential lawns. Sand is applied to sidewalks and schoolyards during snowstorms. Salt is applied to the highways during snowstorms. A sand/salt mix is used during icing conditions or ice storms.

The amount of sand applied varies yearly. It is all weather dependent. The sweepers will

pick up aluminum cans, cigarette butts, leaves, paper cups, plastics, articles of discarded clothes, foot-ware and a host of material that is not sand related. When sand is mostly absent from the streets these items make up the bulk of the material collected by the sweeper. When sand is present it may make up the bulk of the material.

Most of the sand is collected off the streets during the first few neighborhood runs immediately after the winter storm season. Otherwise, most of the material collected is what is listed above. Therefore, it would be difficult to determine the amount of sand collected.

**BMP Effectiveness:** This BMP continues to be quite effective as some sections of the inner City business district are swept on a biweekly basis (far exceeding the required 3 times annually outlined in the minimum program). All sections of the city are currently swept more than three times annually. The mild winter will increase the street sweeping efforts of this reporting year.

**Future Goals:** To continue the street sweeping program at its current rate.

#### **#6-4, Continue to Follow SOPs for Disposal of Catch basin Cleaning and Street Sweeping Residuals**

**Current Status:** The City continues to place street sweeping debris and catch basin debris up in the rear lot of the recycling facility. The street sweepings are placed on a concrete pad with three-sided cement block walls. These sweepings are dried out, mixed with the gravel/asphalt pile and eventually ground up to make crushed gravel for streets and sidewalks.

The catch basin waste is piled across from the street sweeping debris in a compacted depression. This catch basin waste is allowed to evaporate to a certain extent then it is also mixed with the gravel/asphalt pile and eventually ground up to make crushed gravel for streets and sidewalks.

**BMP Effectiveness:** This BMP is as effective as designed and provides a reuse for the material collected that would otherwise be sent to landfill. The City will explore ways to improve this BMP.

**Future Goals:** The City filed a grant request with the State of New Hampshire to build a covered concrete system to better handle the catch basin waste. This request did not make it through the NHDES grant approval process. It will be submitted in the next round of grant applications in hopes of securing funding for this project. The grant request is included as Attachment W.

**#6-5, Minimize Salt Usage and Maintain Cover over Salt Storage Area**

**Current Status:** The majority of the salt the City uses for highway treatment in the winter is kept under cover at the Highway Garage. There is also a satellite location up at Dunbarton Road that is active during the winter period. This salt pile is covered with a tarp.

All salting trucks are calibrated once annually before the winter sand/salt application season begins to assure the greatest efficiency and minimal salt use during spreading.

In regard to the issue of salt migrating to the water bodies, the City of Manchester purchased a snow melter during the 2004 season. The melter is capable of melting 135 tons of snow per hour. The snow melter is used in the high-density areas (downtown) where snow can't be plowed on sidewalks.

The sodium chloride associated with the melt water is discharged down manholes connected to the combined sewer system to the wastewater treatment plant. This will keep some of the sodium chloride, associated with the eventual melt, out of the Merrimack River. The sodium chloride that passes through the treatment process is discharged to the Merrimack River on a steady state basis, thus avoiding the peak loading during warm days.

Due to the mild winter and small amount of snow, the snow melter was not used this year.

**BMP Effectiveness:** Salt usage was greatly reduced due to the light winter and small amount of snowfall. The application of salt is receiving more attention due to the I-93 widening project. The Conservation Law Foundation has a suit against the State of New Hampshire in regards to this widening project. The State is currently working on TMDLs for the water bodies along the I-93 Corridor. The full impact of salt application will be realized once the TMDL study is completed.

**Future Goals:** To work within the requirements of the TMDL study once that is established and continue to implement the measures outlined in the BMP.

**#6-6, Develop/Implement Program for Cleaning Pond Inlets & Trash Racks**

**Current Status:** There are two trash inlet racks at Nutts Pond. Both have been inspected during this reporting year. There are plans underway to retrofit these inlet racks for easier access and cleaning. There are also plans to upgrade the sediment collection system through various BMPs in the Nutts Pond area.

The three, three-chamber baffle tanks at Dorrs Pond, the one, three-chamber baffle tank at Crystal Lake and the Vortech swirl concentrator at Douglas street have all been inspected. The city has devised a checklist for the spring and fall inspection of these units to assure they are cleaned when they begin to get filled with sediment. The baffle tank-cleaning checklist is included as Attachment X.

There is a StormTreat™ System at Crystal Lake that the City is currently operating. It was restarted in May of 2005. The City cleaned the lines, retrofitted the baffle tank and now has the unit on the semi-annual inspection checklist.

The outflow line from the baffle tank was in the second chamber and located six inches off the floor. This orifice could easily become plugged with sand and debris. DPW had a stainless steel, three-sided box made, with an aluminum grate cover. This box is 1-foot high. It prevents the outflow line from becoming plugged and paper material is trapped upon the grate. This installation was completed in early summer. The memo on the maintenance and design of this system are included as Attachment Y.

The City also had 12, daylilies planted around each of the six, StormTreat™ treatment tanks. The outflow lines from the units were closed and a fire hydrant opened to flood the treatment units. This was done so the lilies could take root.

The lines were opened after a week and the six outlet valves throttled to assure the discharge flow from each unit was fairly uniform. These lilies were watered throughout the summer during dry periods. The proposal and lily layout diagram are included as Attachment Z.

**BMP Effectiveness:** This BMP is highly effective when in operation to reduce the phosphorus and nitrogen that would otherwise be going directly into Crystal Lake. The retrofit to the second chamber has allowed this unit to work as intended and allows flow to continue to move through the system.

**Future Goals:** To continue to look at the use of baffle tanks in high sediment areas. The City also wants to log the inspections and cleaning of the existing baffle tanks and other treatment units on a continuing basis. To perform a phosphorus and nitrogen analysis of the contents in the baffle tank and compare this to a sample of the treated discharge from the StormTreat System to determine removal efficiencies of the unit.

#### **#6-7, Develop/Implement Employee Education Program**

**Current Status:** The City continues to provide training to the staff who are involved with any aspect of storm water management. Power Point presentations, videos, and



how-to demonstrations were given to the employees during March. Those presentations reflect knowledge gained over this reporting year, and new methods for BMP placement.

The sewer crew training covered the following:

- An overview of how the StormTreat System at Crystal Lake;
- What a watershed is;
- Stormwater impacts on wastewater treatment;
- EPA 'After the Storm' video;
- Battle of non-point source pollution;
- Manchester's non-point pollution sources;
- Pollution in the Merrimack watershed;
- Erosion examples;
- High flows ruin good BMPs;
- Small issues create big problems (Attachment AA).

One training session was held on March 21<sup>st</sup> and the other March 22<sup>nd</sup> of 2006.

The second training session focused on the engineering staff that is involved with inspections at construction sites and site design. This training included the following:

- Manchester's non-point source issues;
- Sources of watershed pollutants;
- EPA's NOI overview;
- Examples of poor & failed BMPs;
- Erosion due to lack of BMPs;
- Good BMPs do not guarantee compliance;
- Site review plans paint a rosy picture;
- Small issues that compound problems;
- The ideal world of BMPs;
- StormTreat System operation overview.

The training log is included at the end of this section as Attachment AB. This training session was held on March 20, 2006.

Employee training goes beyond the Department of Public Works employees. The City of Manchester prints and distributes a bi-monthly newsletter entitled "The City Matters" to all City employees. As with last year, copies of the articles for this reporting year are included as Attachment AC.

Teacher training is a very important part of the Storm Water Management Program. The City's 8<sup>th</sup> grade teachers do receive a fair amount of instruction through the SEPP sponsored "Merrimack River Matters" program. The City has agreed to extend the

Amoskeag Fishways for a second year beyond the end of the Supplemental Environmental Projects Programs, to assure the City's 8<sup>th</sup> grade teachers are being supported in the environmental training programs. This contract carries through June of 2006.

The City donated in excess of \$500 to the Student Conservation Association to sponsor a citywide "Earth Day" Celebration event scheduled for April 22, 2006. This event will be held at Veteran's Park in the heart of the downtown. The event includes neighborhood cleanups, work on local environmental projects, activities and vendor booths.

Training is extended to storm water coordinators in surrounding communities. Manchester hosts the regional "Storm Water Assessment Team" (SWAT) which is made up of the New Hampshire communities consisting of Auburn, Bedford, Derry, Goffstown, Londonderry, the NHDOT and Manchester. Manchester has invited three other communities (Hamstead, Danville and Sandown) to join the group. The letters of invitation are Included as Attachment AD.

Each meeting session now includes a training module from "The Practice of Watershed Protection" manual entitled "Techniques for protecting our nation's streams, lakes, rivers and estuaries. Minutes of these meetings with reference to the specific modules is included as Attachment AE at the end of this section.

**BMP Effectiveness:** This BMP continues to grow, and with previous experience, is more effective with each passing year. The students continue to learn more as evidenced by the survey results taken by the Amoskeag Fishways staff. Employees are becoming more familiar and comfortable with the requirements of the Manchester's Storm Water Program. All City employees are kept aware of storm water management issues through the "City Matters" newsletter articles.

**Future Goals:** To continue supporting the Amoskeag Fishways in some capacity once their contract terminates. To continue the training of City staff regarding the storm water program. Keep storm water issues in the forefront through the efforts of the "City Matters" newsletter. Continue hosting the regional S.W.A.T. meetings.

#### **#6-8, Design & Construct Pond Specific Pollution Prevention Projects**

**Current Status:** The SEPP program required the design and implementation of pollution prevention projects around the ponds. All items, with the exception of the Nutts Pond project, have been completed since the previous reporting year.

The Nutts Pond project anticipates the retrofit of the two existing baffle tanks at the north and south end of the Pond. The design includes the implementation of two forebays on

the two east inlets (one at Home Depot and the other at Henry's Auto Body) to trap the material that currently increases the sediment deltas on the east side of the pond.

A wetland modification and diversion is planned for the area south of Henry's Auto Body to increase wetland detention and uptake of nutrients. The anticipated project cost is in excess of \$330,000. The city is awaiting word on a \$60,000 grant award from the NHDES. Manchester also needs final approval of the wetlands and dredge and fill permits for this work as it is considered a major impact project. It is expected that this project will get underway in mid-summer.

**BMP Effectiveness:** This BMP continues to be highly effective as tangible results are measured when the various structures are cleaned. Also, the yearly erosion that had been happening in these areas has abated as a result of the implementation of the BMPs for the targeted sites.

**Future Goals:** Continue the upkeep and inspections of these structures. Include all structures implemented at Nutts Pond site on the semi-annual inspection checklist.

**#6-9, Best Management Practices for Derryfield Country Club - (BMP Completed)**

**Current Status:** The City has placed 400 feet of paved cart path in the highest erosion area on the lower end of the golf course (hole #2) as was anticipated in last years report. This has eliminated the erosion in that area.

The Storm Water Coordinator will work with the Parks and Recreation garage supervisor to draft a spill prevention control and countermeasure program to implement BMPs for the maintenance garage.

**BMP Effectiveness:** This BMP is has brought awareness to the Derryfield staff and analysis indicates little to no net pollution contribution from the site. The large open fields may actually help in the uptake of atmospheric deposited pollutants.

**Future Goals:** Close out the construction project for the new clubhouse this spring and file the NOT. Review practices at the golf course once during this reporting year to determine if the eroded areas noted in the report are being reduced. Complete a BMP manual for use by staff in the maintenance garage.

**May 1, 2005 through April 30, 2006 Catch Basin Cleaning List**

This is a listing of all the catch basins cleaned by a private contractor during the period of May 1, 2005 through April 30, 2006. This listing will have more basins added as the contractor progresses beyond the Storm Water Program reporting year ending April 24, 2006.

<b>Date</b>	<b>Street</b>	<b># of Basins Cleaned</b>
<b>5/6/05</b>	Green Acres Dr	8
	Island Pond	1
	Lynwood Ave	10
	Wedgewood Ln	1
<b>5/7/05</b>	Benjamin St.	18
	Wood Crest	10
<b>5/13/05</b>	Pine Brook St.	14
<b>9/13/05</b>	Monroe St.	2
	Elliot St.	1
	N. River Rd	3
	West Clark	3
	Everett St.	7
	Thayer St.	3
	Readey St.	2
<b>9/20/05</b>	Madaline St.	4
	Ridge Road	1
	Greenfield Rd.	6
	Elm St.	4
<b>10/7/05</b>	North River Rd.	12
<b>10/13/05</b>	West Clark	8
	West River	5
	Victoria St.	7
<b>12/5/05</b>	Elm St.	13
<b>12/9/05</b>	Elm St. (N. of Webster)	16
	West Appleton	2
	Clark St.	1
	North Bay	4
<b>12/9/05</b>	Word St.	12
<b>3/22/06</b>	Robie & Chestnut	19

## Private Contractor

## Catch Basin Cleaning List

3/28/06	Appleton	2
	Chestnut	17
	Clarke St.	3
	Carpenter St	2
	Ward St.	7
	Ted St	1
	Pelham St.	2
	McCarthy	14
	Edgar St.	2
3/29/06	Chestnut	3
	Trenton	8
3/30/06	McCarthy St	4
	Braeburn Dr	7
	Bay Berry Ln	5
	Trenton St	2
	North Adams	13
	Carpenter St.	2
	Chestnut St.	2
	Clarke St	2
	Appleton St.	2
3/31/06	Bayberry Ln	1
	Huroid St	2
	Morton St.	2
	Merrow St.	2
	Mary Ann Rd	3
	Irwin Dr	5
	Paule Ave	1
4/3/06	Seventh St	2
	Eve St.	5
	Whitney Ave	1
	Exchange Ave	5
	Elgin Ave.	7
4/4/06	Elgin Ave.	7
	Whitney St.	2
4/5/06	Whitney Ave	4
	Boston St	3
	Coral Ave.	12
4/7/06	North Bay St	2
	Ready St	2
	Carpenter St	4

	Elm St (East Back)	4
	North River	1
	Ray St.	7
	Clarke St	3
<b>4/10/06</b>	Coral St	7
	Arthur Ave	1
	Camelot Dr	6
	Camelot Circle	4
	Lancelot Ave	4
	Madeline Rd	4
	Clarke St	2
	Ray St	9
	Appleton St	2
	North Bay St.	5
	Union St	17
	Kearney St	2
<b>4/11/06</b>	Willam Gagnon Rd	8
	Chad road	12
<b>4/12/06</b>	Paquette St.	5
	Vassar Ct	8
	Wellesley St	3
	North Gate	11
	North Acres	2
	Union St.	14
	North Bend	2
	North Gate	2
<b>4/14/06</b>	North Gate	2
	North Bond	4
	Steinmetz Dr.	4
	Crestview Circle	4
	Kearney Circle	2
	Highcrest Rd	2
	Imelda Rd	2
	North Acres Rd	2
	Crestview Rd	2
<b>4/20/06</b>	Union St	12
	Appleton St	2
	Clarke St.	1
	Campbell St.	3
	Arah St	3
	Hamel Dr	3

Private Contractor

Catch Basin Cleaning List

<b>4/21/06</b>	Arah St.	11
	Coral Ave.	4
	Kristen Ln	1
	Ridge Rd	4
	Ray St.	5

Total Basins Cleaned during the reporting year by a private contractor.	<b>588</b>
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## Stormwater Catch Basin Cleaning Program

### Program year May 2005 through April 2006

In accordance with the City of Manchester's Stormwater Management Program, the City is required, under BMP #6-2, to track the catch basins that are cleaned. The Stormwater Program is required to have the pond basins set on a priority-cleaning schedule. This is a listing of the streets where catch basins have been cleaned throughout the City. During this reporting year over 600 catch basins were cleaned in the below listed streets.

It is important to note that not all catch basins on the named streets may have been cleaned. Sometimes there are vehicles parked over the catch basins and that particular catch basin is skipped over during that day of catch basin cleaning maintenance. An outside contractor cleaned most of the catch basins on the listed streets. City of Manchester personnel cleaned all the catch basins around the ponds.

The listing of streets that were cleaned during this reporting year (May 2005 through April 2006) follows:

#### **West Side of the Merrimack River in the City of Manchester**

- Only trouble spot catch basins were cleaned on the West Side of the Merrimack River. This area is newly separated and many of the catch basins have been replaced or cleaned under the construction contract

#### **East Side of the Merrimack River in the City of Manchester**

- Bradley Street
- Beech Hill Drive
- Beech Hill Avenue
- Gold Street
- Titus Avenue
- Flower Street
- South Beech Street
- Ruggles Street Mystic Street
- Rose Avenue
- Home Avenue
- Slade Avenue
- Purchase Street
- Marguerite Street
- Dorchester Street
- Enfield Street
- Commercial Street
- Coffee Street
- Mulsey Street
- Payson Street
- North State Street
- Textile Court



- Dow Street
- West North Court
- Chandler Street
- West North Street
- West Salmon Street
- West Pennacook Street
- West Brook Street
- Langdon Street
- Hollis Street
- Kidder Street
- Bridge Street to Elm
- Charles Street
- Mechanic Street
- Market Street
- West Central Street
- Franklin Street
- West Merrimack Street
- Plaza Drive
- Old Granite Street
- Depot Street
- West Auburn Street

The following is a listing of streets, they were determined to be priority streets in the Phase I Malcolm-Pirnie study, around the City of Manchester's Urban Ponds. City personnel and City equipment clean these at least twice annually. These are inspected periodically and if additional cleaning is needed a crew, a City crew is dispatched to clean these basins more frequently than twice per year. These were all cleaned once during the second half of 2005 or the spring of 2006 by City of Manchester personnel.

**Stevens Pond**

- Pennsylvania Avenue
- Delaware Avenue
- Beaver Street (to Bridge Street)
- Maplehurst Street (to Bridge Street)
- Ohio Avenue

**Maxwell Pond**

- English Village Road
- Garden Road
- Greeley Street (CB 3950 to CB 3948)

**Dorrs Pond**

- Apple Court

- Hooksett Road (CB 1277 to 1272)
- Poplar Street
- Juniper Street
- Shady Lane
- Campbell Street (Shady Lane to Poplar Street)
- Bicentennial (CB 1289 to CB 1284)
- Crosbie Street (Pickering to Hooksett Road)
- Day Street (Fairfield to Hooksett Road)
- Pickering Street (Barrett Street to Crosbie)
- Livingston Park/Pool lots (Sweep)

**McQuestan Pond**

- South Main Street (Intersection of Second St to Oneida St.)
- South Main Street (Newgate Circle to Blach Ave.)
- Erie Street

**Nutts Pond**

- Driving Park Road
- Leclerc Circle
- March Avenue (from Gold St to John E. Devine)
- John E. Devine (From South Willow St.)
- McGrail Circle
- Bradley Street
- Beech Hill Ave. (Beech Hill St. to Bradley)
- Beech Hill Drive (To Bradley)
- Titus Ave. (east from South Beech Street)
- Mystic Street (From Ruggles to Flower)
- Ruggles Street
- Flower Street

**Pine Island Pond**

- Goffs Falls Road (Gosselin Rd to Come Street)
- Come Street
- Kennedy Avenue
- Coldwell Street

**Crystal Lake**

- Corning Road (CB 3053 to 3049)
- Corning Road (Intersection of Bryant up toward Bodwell Road)
- West Shore Avenue

## Urban Pond Priority CB Cleaning List

Fall 2005 [ ]

[ X ] Spring 2005

**Nutts Pond** - Map 4G

May-05

Date Work Completed

March Avenue - 11 CBs

Driving Park Road - 8 CBs

John E. Devine - 8 CBs

Name of Crew: \_\_\_\_\_

Basins inspected by Foreman and found to be clean enough to forgo the spring round of cleaning. Inspections done May 2005

**Crystal Lake** - Map 6H

May-05

Date Work Completed

Corning Road - 9 CBs

Name of Crew: \_\_\_\_\_

Basins inspected by Foreman and found to be clean enough to forgo the spring round of cleaning. Inspections done May 2005

**Dorrs Pond** - Map - 4C

June of 2005

Date Work Completed

Juniper Street - 7 CBs

Poplar Street - 14 CBs

Arah Street - 20 CBs

Bicentennial Drive - 6 CBs

Day Street - 8 CBs

Crosbie Street - 6 CBs

Hooksett Road - 6 CBs

Name of Crew: \_\_\_\_\_

T. Perkins Vactor #1 - D. Richards Vactor #2

Enough of these basins were found to have enough sediment to warrant cleaning. It was decided to clean all the CBs in this pond area regardless of the amount of sediment within each basin.

**Pine Island Pond** - Map 4I

May-05

Date Work Completed

Gnome Street - 11 CBs

Kennedy Street - 2 CBs

Perimeter Road - 8 CBs

Name of Crew: \_\_\_\_\_

Basins inspected by Foreman and found to be clean enough to forgo the spring round of cleaning. Inspections done May 2005

**Maxwell Pond** - Map 2D

May-05

Date Work Completed

Garden Drive - 9 CBs

English Village Road - 11 CBs

Greeley Street - 2 CBs

Name of Crew: \_\_\_\_\_

Basins inspected by Foreman and found to be clean enough to forgo the spring round of cleaning. Inspections done May 2005

**McQuesten Pond** - Map 2G

May-05

Date Work Completed

Erie Street - 10 CBs

South Main Street - 18 CBs (Newgate to Ann Ave)

South Main Street - 10 CBs (Second to Oneida)

Name of Crew: \_\_\_\_\_

Basins inspected by Foreman and found to be clean enough to forgo the spring round of cleaning. Inspections done May 2005

**Stevens Pond** - Map 5E & 6E

May-05

Date Work Completed

Maplehurst Avenue - 5 CBs

Beaver Street - 3 CBs

Bridge Street - 4 CBs

Pennsylvania Avenue - 5 CBs

Deleware Avenue - 5 CBs

Name of Crew: \_\_\_\_\_

Basins inspected by Foreman and found to be clean enough to forgo the spring round of cleaning. Inspections done May 2005

## Urban Pond Priority CB Cleaning List

Fall 2005 [ X ]

[ ] Spring 2005

<b>Nutts Pond</b> - Map 4G March Avenue - 11 CBs Driving Park Road - 8 CBs John E. Devine - 8 CBs	Sept/Oct. 2005	Date Work Completed  Name of Crew: T. Perkins Vector #1 - D. Richards Vector #2 Enough of these basins were found to have enough sediment to warrant cleaning. It was decided to clean all the CBs in this pond area regardless of the amount of sediment within each basin.
<b>Crystal Lake</b> - Map 6H Corning Road - 9 CBs	Sept/Oct. 2005	Date Work Completed Name of Crew: T. Perkins Vector #1 - D. Richards Vector #2 Enough of these basins were found to have enough sediment to warrant cleaning. It was decided to clean all the CBs in this pond area regardless of the amount of sediment within each basin.
<b>Dorrs Pond</b> - Map - 4C Juniper Street - 7 CBs Poplar Street - 14 CBs Arah Street - 20 CBs Bicentennial Drive - 6 CBs Day Street - 8 CBs Crosbie Street - 6 CBs Hooksett Road - 6 CBs	Sep-05	Date Work Completed  Name of Crew: _____ Basins inspected by Foreman and found to be clean enough to forgo the spring round of cleaning. Inspections done May 2005
<b>Pine Island Pond</b> - Map 4I Gnome Street - 11 CBs Kennedy Street - 2 CBs Perimeter Road - 8 CBs	Sep-05	Date Work Completed  Name of Crew: _____ Basins inspected by Foreman and found to be clean enough to forgo the spring round of cleaning. Inspections done May 2005
<b>Maxwell Pond</b> - Map 2D Garden Drive - 9 CBs English Village Road - 11 CBs Greeley Street - 2 CBs	Sep-05	Date Work Completed  Name of Crew: _____ Basins inspected by Foreman and found to be clean enough to forgo the spring round of cleaning. Inspections done May 2005
<b>McQuesten Pond</b> - Map 2G Erie Street - 10 CBs South Main Street - 18 CBs (Newgate to Ann Ave) South Main Street - 10 CBs (Second to Oneida)	Sept/Oct 2005	Date Work Completed Name of Crew: Perkins Vector #1, Richards Vector #2 Enough of these basins were found to have enough sediment to warrant cleaning. It was decided to clean all the CBs in this pond area regardless of the amount of sediment within each basin.
<b>Stevens Pond</b> - Map 5E & 6E Maplehurst Avenue - 5 CBs Beaver Street - 3 CBs Bridge Street - 4 CBs Pennsylvania Avenue - 5 CBs Delaware Avenue - 5 CBs	Sep-05	Date Work Completed  Name of Crew: _____ Basins inspected by Foreman and found to be clean enough to forgo the spring round of cleaning. Inspections done May 2005

[illegible][illegible]

[illegible][illegible]

ATTACHMENT T

## 2005 Catch Basin Complaint Investigation & Follow Up

Date	CSF #	Time	Address	Problem	Findings
7/1/2005	13489	1015	363 Lowell St.	CB needs to be cleaned	Cleaned CB
7/6/2005	13769	0937	Corner of S. Lincoln & Boisvert St.	CBs need to be cleaned	Cleaned and jetted CBs
7/6/2005	13772	1530	141 Greenwood Ct.	CB needs to be cleaned	Cleaned CB
7/6/2005	13773	1630	Chestnut & Lowell St	CB needs to be cleaned	Cleaned CB
7/8/2005	13782	0831	Sommerville & Grey across from Dentist	CB needs to be cleaned	Cleaned CB
7/11/2005	13793	1444	306 Calef Road	CB needs to be cleaned	Cleaned two CBs
7/19/2005	13854	1431	Corner of Calef Rd and Garfield St.	CBs blocked	Cleaned & jetted 20 CBs in the area
7/19/2005	13852	1407	Corner of Young & Taylor Sts.	CB needs to be cleaned	Cleaned the CB
7/22/2005	13874	0853	635 Cilley Rd	CB needs to be cleaned	Cleaned CB
7/25/2005	13882	1218	181 Platts Ave	CB blocked	Cleaned CB
7/26/2005	13880	1301	34 Nelson St. & corner at Jones St.	CBs need cleaning	Cleaned four CBs in the area
7/27/2005	13892	1213	341 Taylor St.	CBs not taking water	Cleaned two CBs
7/28/2005	13895	0915	Ridge Rd and Union St intersection	CB needs to be cleaned	Cleaned 2 CBs
7/28/2005	13895	0917	442 Merrimack St @ Hall St intersection	Sink hole at CB	Cleaned CB called crew to patch sink hole
7/28/2005	13898	0947	Corner of Concord & Maple Sts	CBs full of sand and washes out onto Maple St.	Cleaned CBs in that area
7/28/2005	13894	0828	Corner of Highland Park & Laydon	CB needs cleaning	Cleaned CB
8/1/2005	13914	1110	Corner of Porter & Sommerville Sts	CBs at intersection need cleaning	Cleaned the CBs
8/1/2005	13915	1146	Corner of Hayward & Pine Sts	Clean CB at Corner	Cleaned CB
8/2/2005	13923	1129	Intersection of Belmont & Central Sts	CBs need to be cleaned	Cleaned two CBs
8/3/2005	13993	1333	Spruce St. (South Back)	CB loaded with sand	Cleaned sand from CB
8/8/2005	13946	0857	244 W. Erie St	CB blocked	Cleaned two CBs
8/10/2005	13971	1500	Intersection of Belmont & Harrison	CBs need to be cleaned	Cleaned the CBs at this intersection
8/10/2005	13969	1242	106 West Baker St	CB needs to be cleaned	Cleaned CB
8/16/2005	13996	1515	Corner of Maple & Auburn St	CB needs to be cleaned	Cleaned CB
8/30/2005	16783	1411	150 Kelly St	CB needs to be cleaned	Cleaned CB
8/31/2005	16787	0914	485 Coolidge Ave.	CB needs to be cleaned	Cleaned CB
9/8/2005	12101	1339	Intersection of Beacon & Spruce	CBs are blocked	Cleaned 3 CBs at intersection
9/12/2005	16818	0714	83 Reservoir Ave.	CB needs to be cleaned	Cleaned 2 CBs
9/19/2005	16846	1236	274 Merrimack St.	CB in front is full of sand	Cleaned CB
9/21/2005	16860	1335	128 Sunnyside St.	Clean CB	Cleaned CB
9/26/2005	16868	1110	1105 Union St	CB not taking water	Cleaned CB
9/30/05	16889	1350	Brown Ave. Entrance to Velcro	CB not taking water	Cleaned CB

## ATTACHMENT T

## 2005 Catch Basin Complaint Investigation & Follow Up

[illegible]



# ATTACHMENT U

## Sewer Back-Ups - Log for 2005

### Number of Sewer Back Up Complaints

<b>January</b> 19 complaints - 10 issues found	<b>February</b> 21 complaints - 11 issues found	<b>March</b> 21 complaints - 9 issues found	<b>April</b> 25 complaints - 8 issues found
1/2 - Bradley St. next to Beech Hill Ave. Grease blockage	2/5 - 22 Val St - grease blockage	3/4 - 165 Filips Glen Dr - MH blocked	4/1 - 1024 Cedar St. - line blocked
1/3 - 628 Green St - blocked line	2/6 - 208 Mystic - blocked line	3/7 - 35 Dutton St - lind full of debris, blocked	4/2 - 206 Glenwood - line blocked @ Harriman
1/5 - 333 Seams Dr. - line blocked	2/12 - 27 Gabrille St - hit object at 85 ft.	3/16 - 205 Wilmot St. - Problem not determined	4/2 - 161 South Beech - Blocked roots
1/5 - 192 Titus St - Grease blockage	2/13 - 75 Log St. - line blocked	3/17 - O'Neil Cntr, S. Elm St. - line plugged by roots	4/8 - March Ave & Cahill - line blocked
1/14 - St. James Ave - blocked line	2/15 - 125 S. Mammoth Rd - line blocked @ church	3/20 - 123 Orange St. - line blocked	4/20 - 274 Ray St. - rocks blocking line
1/16 - 264 Pauquette St - line block	2/17 - 11 Demers St - line blockage	3/23 - Corner of Second & W. Hancock - cover dumped in MH	4/21 - 503 Cedar St. - blocked line
1/17 - 723 Maple St. - blockage buried SMH	2/18 - 98 Ahern St. - Grease blockage	3/24 - 68 Lucille St. - Line blocked	4/28 - 59 Ahern St. - partial grease blockage
1/25 - 25 Conway St - Flooded St. blocked CB	2/19 - 141 Lamprey St. - blocked line	3/28 - Griffith & Glenwood - line blocked, 3-MHs backup	4/30 - 119 Morey St - blocked line
1/28 - Corner Robie/N Adams - flooding, blocked CB	2/20 - 541 S. Main St. - Line blocked	3/31 - 250 River Road - MH backed up, blocked line	
1/29 - 3 S. Bedford St. - smell, partially blocked line	2/21 - 141 Lamprey - Line blocked w/ asphalt		
	2/27 - 114 Gabrielle Ave. - line blocked w/ rags		

<b>May</b> 25 complaints - 8 issues found	<b>June</b> 20 complaints - 8 issues found	<b>July</b> 13 complaints - 3 issues found	<b>August</b> 22 complaints - 3 issues found
5/7 - Gabrielle & S. Willow- blocked line	6/18 - 39 Mammoth Rd - blocked line rocks & sand	7/3 - 38 Hayes - line plugged by bricks	8/12 - 78 Norcross - line blocked by roots
5/9 - 260 Orange St - Partially blocked line	6/26 - 26 Taggart St. - Line blocked by roots	7/18 - 509 Cedar St - blocked line	8/20 - 189 Blodgett - blocked line
5/12 - 548 Holly St. - Cleaned dead end line	6/27 - 333 Seames Dr - line blocked	7/29 - 93 First St - blocked line	8/30 - 49 Richard St - blocked line
5/16 - 46 Westwood Dr. - line blocked	6/27 - 19 Hosley St. - Line blocked by roots		
5/17 - 414 N. Dend Dr. - debris blocking line	6/28 - 503 Cedar - blocked line		
5/18 - Beech St. School - CB in rear of bldg blocked	6/29 - Gingras St Flooded - Blocked CB		
5/23 - 763 Maple St. - line blocked	6/30 - 7 Stevens St. - line blocked grit & grease		
5/26 - 121 Faith Ln - 7 MHs backed up jettied to Hazelton	6/30 - 308 Blodgett St. - line blocked by roots		

<b>September</b> 20 complaints - 5 issues found	<b>October</b> 27 complaints - 6 issues found	<b>November</b> 22 complaints - 10 issues found	<b>December</b> 13 complaints - 4 issues found
9/9 - 238 Youville St - line blocked by roots	10/3 - 583 Beacon St. - partially blocked w/ roots	11/5 - 245 Jobin Dr. - roots, lost cutter @ 65'	12/3 - 43 Russel St. - line blocked
9/13 - 144 Whitney St - line blocked	10/8 - 161 S. Beech - partially blocked w/ roots	11/10 - 361 Fremont St. - blocked line	12/21 - Wellington/Edward J. Roy - line blocked
9/17 - Farmer/Mission Int - MH blocked	10/9 - 36 Miami Ct. - partially blocked w/ roots	11/13 - 220 Bradley St. - line blocked	12/23 - Lingrad St - Line blocked
9/19 - Wellington Rd/ Edward J. Roy - blocked line	10/9 - 974 Iris St. - line plugged w/ roots	11/14 - 216 Head St. - jettied line 3', neet to Televis	12/31 - 154 Hayward St. - Line blocked w/ roots
9/28 - 38 Flint St - Dead end line plugged	10/14 - Walnut/Clark Sts. - Outfall grate cleaned	11/14 - 132 Titus Ave. - line blocked	
	10/15 - Bridge St. Ext. - flooded cleaned grates	11/17 - S. Queen City Ave. - blocked jettied 145' E. from Brown	
		11/18 - Massabesic St. - line blocked w/ grease	
		11/23 - 28 Witt Ave. - plugged with roots	
		11/30 - 45 Westland - line plugged with grease	
		11/30 - 963 Hanover St. - line plugged	

<p style="text-align: center;"><b>City of Manchester Department of Highways</b> <b>Sewer Problem Areas</b></p>
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**SOUTH**

1. Miami Court – Houses #6 through #73
2. Porter Street – House #120 (do area resurfaced in 1999)
3. Slade Street – House #7
4. Purchase Avenue – House #67
5. Beech Hill Avenue – Houses #193 through #220
6. Harrington Street – Houses #62 through #87
7. Mitchell Street – From Calef Road to South Beech Street
8. South Gray Street – From Cilley Road intersection in the southerly direction
9. South Lincoln Street – Houses #85 through #177
10. South Taylor Street – Houses #150 through #317
11. Vinton Street – House #36
12. Weston Road – House #239 through #589
13. Lois Street – House #34 through #144
14. Maurice Street – House #39
15. Mystic Street – Calef Road to South Beech Street
16. South Beech Street – House #161 area
17. Westland Ave House #21, House # 130 & House #457
18. Huse Road – Overpass to Mooresville Road
19. South Beech Street – Houses #680 through 700
20. South Willow Street – Rear of Bickfords Restaurant to So. Jewett Street
21. South Willow Street – Gabrielle St (clean south for two manholes)
22. Lennox Avenue – Deadend to South Beech Street
23. Pepperidge Drive – House #135
24. Murphy Street – House #99 to Kevin Street
25. Armand Street – Mitchell Street to Cross Country
26. Morey Street - #173 to Lincoln Street
27. Westwood Drive - # 335 Roots

**SIPHONS**

1. South Mammoth Street at Bodwell Road
2. Goffsfalls Road (opposite Post Office in the woods)

**NORTH**

1. Dave Street at Lindahl
2. McCarthy Street (Edgar Street Westerly)
3. Andrew Street (River Road at the dead end)
4. 656 Chestnut Street – Jet Pennacook Street to the Back
5. Coral Avenue – House # 193
6. Harold Street – Houses #64 through #81
7. Haven Hill Road – Dead Ends at House #12 and Dead End at House #60

8. Webster Street – House #345 area that drains to North Street
9. Oak Street – Houses #99 through #280
10. Chestnut Street – House #999
11. North Bay Street – House #443 (dead end to Theodore Street)

### **CENTRAL**

1. Walnut Street – Houses #346 through #500
2. Walnut Street – House #422 (Rear manhole that goes to 949 Union)
3. Union Street – Houses #781 through #880
4. Liberty Street – House #35
5. Pine Street – House #748 (do the line that goes out back)
6. Beech Street – Clean from Harvard Street to Silver Street
7. Maple Street – Clean from Silver to Dave Street
8. Sommerville Street – Houses #263 through #270
9. Cilley Road – Beech Street to Maple Street
10. Green Street – West side of street (Green Street to Union Street)
11. Auburn Street – West side of street (Auburn Street to Beech Street)
12. Laurel Street – Houses #418 through #448
13. Central Street – Houses #533 through #596
14. Pearl Street – Houses #133 through #234
15. Merrill Street – House #15 (Jail problem cups, etc.)

### **EAST**

1. Hanover Street – House #751
2. Portsmouth Avenue – House #25 through #200
3. Woodland Avenue – House #44 through #225
4. Lovering Street – House #329
5. Delaware Avenue – Hanover Street to London Street
6. Maplehurst Avenue – House #152 through #312
7. Maryland Avenue – House #43 through #200
8. Anthony Street – House #178
9. Fremont Street – Hayward Street to #387 Fremont Street
10. Hamblet Street – House #60
11. Clay Street – House #509 to Dead End
12. Talbot Street – House #37 through #75
13. Normand Street – House #315 through House #422
14. Melrose Street – House #178 through #180
15. Valley Street – Street both ways in the 1100 block area
16. Merrill Street – Jewett Street easterly for one manhole
17. Johnson Street – Porter Street to Gray Street (line sag)
18. Hospital Avenue – House #21 through #41
19. Jones Street – House #45 to Benton Street
20. Page Street – Hanover Street to Angelos
21. Bridge Street – Mission Ave to Morse Road

## **WEST**

1. Rose Terrace – House #30
2. Kingston Street – Houses #30 through #70
3. Youville Street – East side back in the #300 House area
4. Warner Street – Houses #82 through 172
5. Dennis Street – The Dead End
6. Lenz Street – The Dead End
7. Dubuque Street – Houses #167 through #250 & Sullivan St. Dead End
8. Dunbarton Road – Houses #65 through #158
9. Garden Drive – Entire Street
10. Lockwood Avenue – Houses #103 through #113
11. Maybrook Street – House #99
12. Bernard Street – House #121
13. Wilkins Street – House # 133 and Houses #172 through #250
14. Carroll Street – House #99
15. Anne Avenue – Houses #25 through #78
16. Westside Interceptor – Rear of Sullivan Tire Southerly to under the on ramp
17. Chapleau Street – Clean at Kimball Street
18. Parker Street – House #104 to the Dead End
19. Brock Street – Charleston Street to Brockton Street
20. Hancock Street – Dartmouth Street easterly
21. Saint Marie Street – House at #237
22. Front Street – Metering Station Manhole to the first manhole north
23. Bismark Street – House #229 to the Dead End

**The New Hampshire Department of Environmental  
Services  
Pre-Proposal Form For:**

**2006  
Watershed Assistance and Restoration Grants**

Submit 5 signed copies of the 2006 Watershed Assistance and Restoration Grants Pre-Proposal form and all attachments via postal mail, or hand delivery, and an electronic copy via e-mail or compact-disk (in Microsoft Word or PDF file formats) to:

NH Department of Environmental Services  
Attention: Jeff Marcoux  
Watershed Assistance Section  
PO Box 95  
Concord, NH 03302-0095

For overnight shipping or hand deliveries, our address is 29 Hazen Drive, Concord NH 03301-6509.

E-mail electronic copies to:  
[jmarcoux@des.state.nh.us](mailto:jmarcoux@des.state.nh.us)

**PRE-PROPOSAL DEADLINE :**  
**4:00PM**  
**OCTOBER 7<sup>TH</sup>, 2005**

Link to 2006 Watershed Assistance and Restoration Grants Information Packet  
<http://www.des.state.nh.us/wmb/was/docs/2006RFPfinalpartAweb.doc>

## 1. Proposal Title

Catch Basin Debris Leachate Capture BMP Structure

## 2. Contact Information

Primary contact person:	Ricardo Cantu – Environmental Permits Coordinator
Organization:	City of Manchester, NH
Street address:	300 Winston Street
City, State, ZIP:	Manchester, NH 03103
Day phone: (603)624-6513	Fax: (603)628-6234      Email: rcantu@manchesternh.gov

Secondary contact person:	Kevin Sheppard – Deputy Director of Public Works
Organization:	City of Manchester, NH
Street address:	227 Maple Street
City, State, ZIP:	Manchester, NH 03103
Day phone: (603)624-6444	Fax: (603)624-6487      Email: ksheppard@manchesternh.gov

Signature of Applicant: \_\_\_\_\_

Date of signature: \_\_\_\_\_

## 3. Proposal Summary

*In 200 words or less, describe the proposed project including: the general location (municipalities and watershed); water quality impairment(s); causes or sources of water quality impairment(s); proposed management activities, e.g., education, technical assistance; goal(s) of the project; and how success will be verified.*

Project consists of construction of a solid pad, perimeter drainage, underground piping, gated area and, pull-cover system to address rain events and a holding tank. Catch basin debris will be allowed to drain on the pad. Liquid drainage will go through perimeter drains to the holding tank. Tank will be pumped and liquid waste disposed of in the sewer system to be treated at the wastewater plant.

Current disposal site (rear of Manchester Recycling Center on Dunbarton Road) consists of a depression in the ground that is adjacent to an inlet to Black Brook. Catch basin debris currently leaches into the ground. Dissolved metals, organics, nutrients and a host of bacteria could slowly migrate toward Black Brook and then move toward Maxwell Pond

#### 4. Project Location

- A. Town(s): **Manchester, NH**  
Is project statewide? **Yes** ☐ **No** X  
Does project involve other states? **Yes** ☐ **No** X
- B. What type of water body does it affect? **Stream** ☐ **Lake** ☐ **Estuary** ☐ **Other** X  
Waterbody name: **Black Brook to Black Brook Pond (a.k.a. Maxwell Pond)**
- C. Attach a watershed map showing project location **Yes** X

#### 5. Problem/Need

- A. Is the water resource listed as impaired or threatened by causes other than mercury on the 305(b)/303(d) Surface Water Quality Assessment? (List available online at: [http://www.des.nh.gov/wmb/was/docs/WAS-impaired\\_waters.pdf](http://www.des.nh.gov/wmb/was/docs/WAS-impaired_waters.pdf)) **Yes** X **No** ☐

*Maxwell Pond, 5.5 Acres, ID# NHLAK700060861-02, Use-Aquatic life, Impairment –D.O.*

- B. *Provide a clear statement of the types of nonpoint sources and water quality problems or threats to be addressed by the project.*

Dissolved metals, volatile and semi-volatile organics, nutrients and potential bacterial threats that may well be leaching into Black Brook toward Maxwell Pond.

#### 6. Desired Outcome

*Provide a concise statement of your desired outcome, or end-state that this project would ideally achieve. Your vision of what total success would "look like". I.e., Anadromous Fish thriving in restored habitat in the Merrimack River.*

Project would quantify the amount of lechate collected for wastewater treatment, measure the contaminants of selected composite samples on a quarterly basis (quantify the pollutant types and quantities removed from the environment).

#### 7. Performance Targets

*Provide examples of the interim performance targets required to realize the Desired Outcome. Performance Targets are specific changes in behavior or physical condition. Targets can be verified and are directly controlled by the implementer. I.e., Stabilize at least 500-feet of streambank to eliminate excessive sedimentation burying fish habitat.*

Do an initial sediment delta analysis at the Black Brook inlet to Maxwell Pond. Measure total metals, volatile/semi-volatile organics, nutrients and surface water bacterial analysis. Monitor structural collection lechate for parameters listed and determine the quantity of material that would no longer have an opportunity to leach to Black Brook and migrate toward Maxwell Pond.

## 8. About Your Organization

- A. *Please describe your organization's core areas of knowledge or expertise. You may list prior successful projects, or other items that you would include in your organization's "resume".*

Manchester has a five-year history with Supplemental Environmental Project (SEPP). This identified need is an extension of the pollution prevention practices undertaken during SEPP work on other projects. Public Works staff have been involved in a majority of the \$5.6 million dollars worth of projects completed throughout the City.

Successful projects include BMP work at Dorrs Pond, Crystal Lake, the Piscataquog River bank restoration, reestablishment of the storm treat system at Crystal Lake and the ongoing activities in regards to the Urban Ponds Program.

- B. *Within your organization, who would be responsible for managing this project?*

Ricardo Cantu – Environmental Projects Coordinator

## 9. Public Participation

*Describe how information and education will be used to enhance public understanding of the project and encourage public participation in selecting, designing, and implementing nonpoint source pollution management measures (i.e. "Train citizens to monitor water quality through volunteer river monitoring program", or "Involve lakeside residents in planting trees and shrubs in the protected shoreland area", etc).*

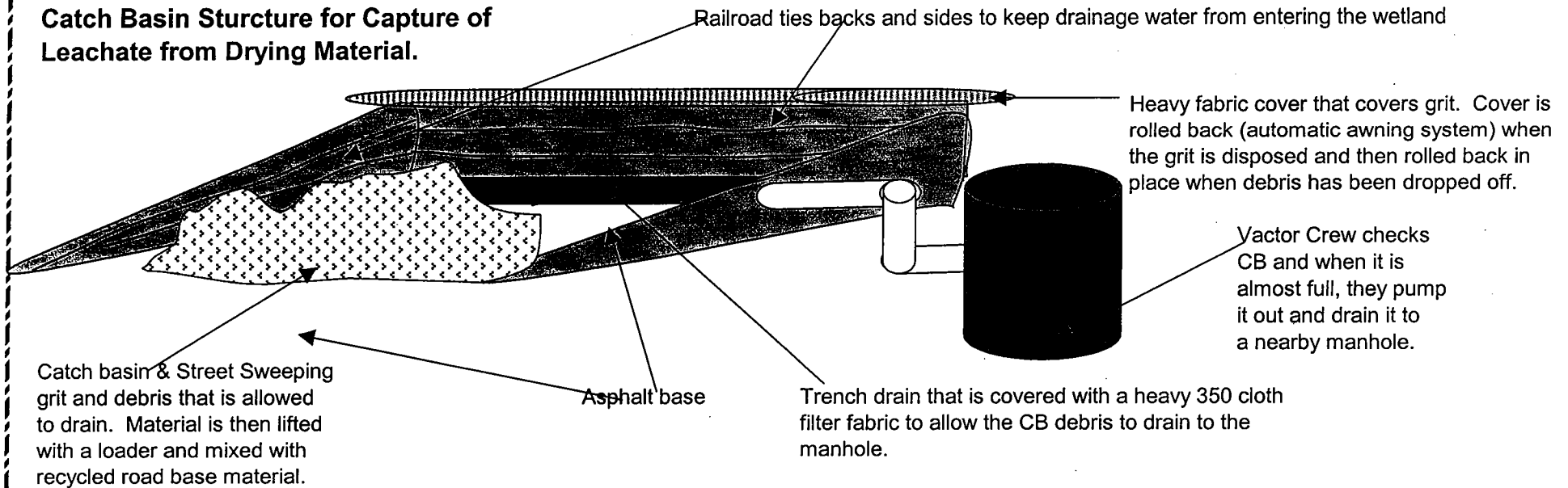
The project would be broadcast on the City's website, news articles would be offered to the Manchester Union and Hippo Press, and an article would be written in the "City Matters" newsletter that reaches all employees of the City of Manchester. The project and results of analysis would be shared among the 37 Phase II Storm Water Communities within the State and the City would make requested presentations at future State/Regional meeting(s).

## 10. Optional Supporting Materials

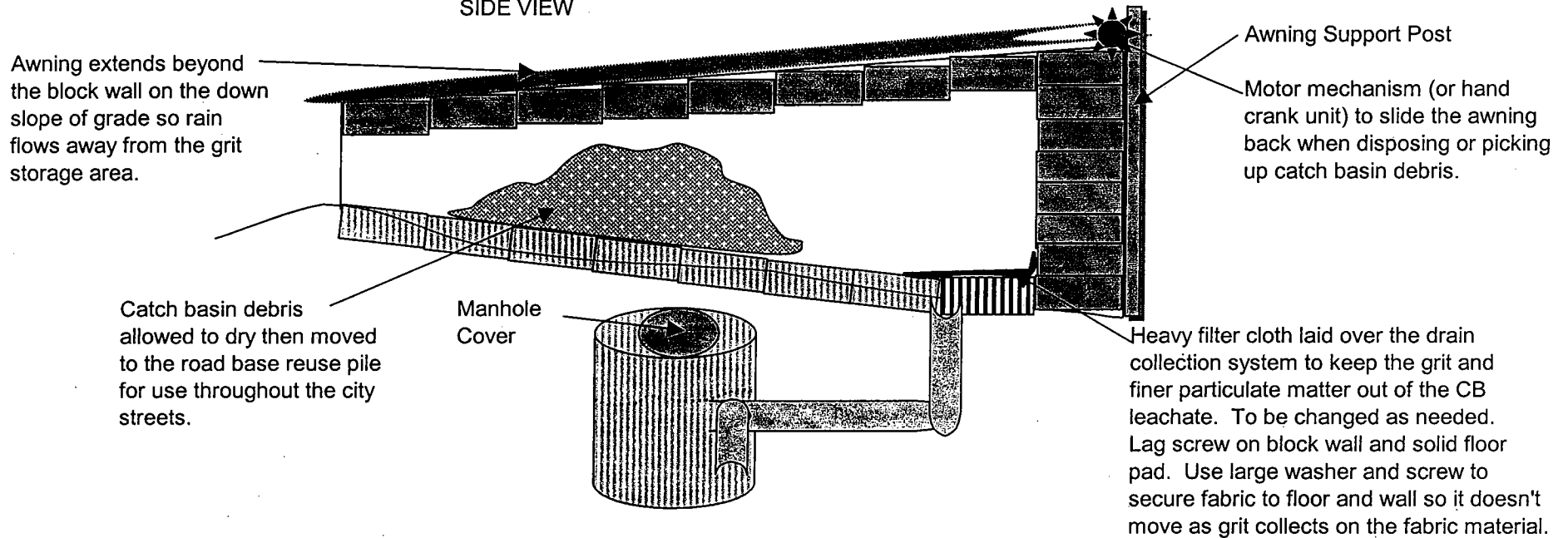
*In addition to the required map attachment (section 4-C), you may choose to attach optional materials such as photographs of the project site, letters from supporters, or other items that you would like us to consider regarding this project pre-proposal.*



## Catch Basin Sturcture for Capture of Leachate from Drying Material.



SIDE VIEW





☒ Fall

**Tank Name - Crystal Lake STS**

Inspector(s): - Rick Cantu, Mike Kilrain,

**1st Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☐ 1"- 3" ☒ 4"-

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐

Weed/brush growth around tank: ☐ No

**2nd Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☒ 1"- 3" ☐ 4"-

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐

**3rd Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☐ 1"- 3" ☐ 4"-

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐

Recommendations: Shield put in plac  
treat system. First chamber needs to b

If cleaned, how much sand/grit was rem

**Tank Name Dorrs Pond - KFC -**

Inspector(s): Rick Cantu, Mike Kilrain, F

Inspect Diversion Manhole Sand

Structural Condition: ☒ Excellent ☐

**1st Inspection Port Information - To b**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☐ 1"- 3" ☐ 4"- 6

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐

Weed/brush growth around tank: ☐ Nor

**2nd Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☐ 1"- 3" ☐ 4"- 6

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐

Weed/brush growth around tank: ☐ Non

**3rd Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☐ 1"- 3" ☒ 4"- 6

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐

Weed/brush growth around tank: ☐ Non

Recommendations: Water boils when  
oil. Tank needs to be cleaned be

#1 - 1.5 X 4 X 6 = 36 / 27 = 1.

If cleaned, how much sand/grit was remc



☐ Fall I

**Tank Name - Crystal Lake STS**

Inspector(s): - Brian Fitzpatrick, Rick Can

**1st Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☐ 1"- 3" ☒ 4"- 6"

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐ \

Weed/brush growth around tank: ☐ Non

**2nd Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☐ 1"- 3" ☒ 4"- 6"

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐ \

**3rd Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☒ 1"- 3" ☐ 4"- 6"

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐ \

Recommendations: Need to protect th  
tank. Designed a protector to be compl

If cleaned, how much sand/grit was reme



**Tank Name Dorrs Pond - KFC - 16'**

Inspector(s): Mike Kilrain, Rick Cantu

Inspect Diversion Manhole Sand

Structural Condition: ☒ Excellent ☐ \

**1st Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☐ 1"- 3" ☐ 4"- 6"

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐ \

Weed/brush growth around tank: ☐ Nor

**2nd Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☐ 1"- 3" ☐ 4"- 6"

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐ \

Weed/brush growth around tank: ☐ Nor

**3rd Inspection Port Information**

Water Appearance in 1st Port: ☐ dry

Depth of sand: ☐ 1"- 3" ☒ 4"- 6"

Does the sand seem to be evenly distrib

Structural Condition: ☒ Excellent ☐ \

Weed/brush growth around tank: ☐ Nor

Recommendations: Water boils wher  
oil.

If cleaned, how much sand/grit was rem

## Crystal Lake Stormtreat System

# Memo

**To:** Staff  
**From:** Rick Cantu  
**CC:** Supplemental Environmental Projects Programs Committee  
**Date:** 05/10/05  
**Re:** Maintenance Report Stormtreat System at Crystal Lake

---

On Friday, May 6, 2005, DPW staff performed maintenance on the Stormtreat System at Crystal Lake. Last fall the system was evaluated and it was determined that the feeder line from the baffle tank to the treatment system was plugged.

Plans have the feeder line in the second baffle tank and close to the bottom of the unit. The vector crews cleaned out the baffle tank. The DPW crews also located the wye clean out in the field (6' 8" off the centerline of the overflow manhole cover). The line was jetted from the wye to the Stormtreat System and flow could be seen in the treatment units.

A highway worker entered the second baffle tank to locate the feeder line to the wye connection. Sand had accumulated along the bottom of this tank wall and partially covered the feed hole exit. It was also discovered that a beer can had completely lodged itself within this feeder hole, blocking the exit flow from the tank. The can was removed and the line jetted. The flow was moving well from the baffle tank through the Stormtreat System after this correction.

It was realized that with the current design, the feeder hole may stay clean for only a month or so before becoming plugged again with junk and sediment. Staff discussed the possibility of building a brick wall around the opening on three sides to keep any sand from building up over the exit. We also talked about putting some type of screening or grate over the top of this wall and lagging it down so no sticks, cans or bottles will get into that hole and plug the feed line.

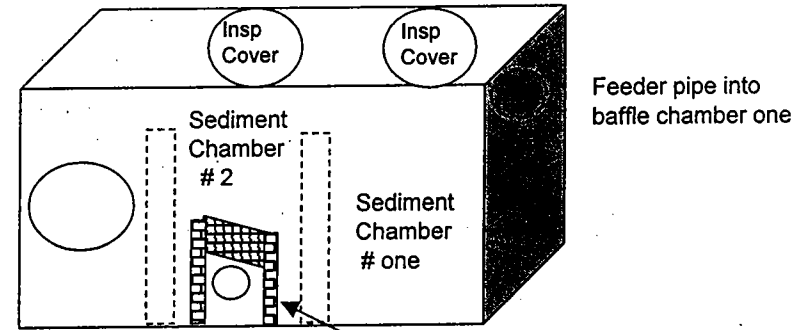
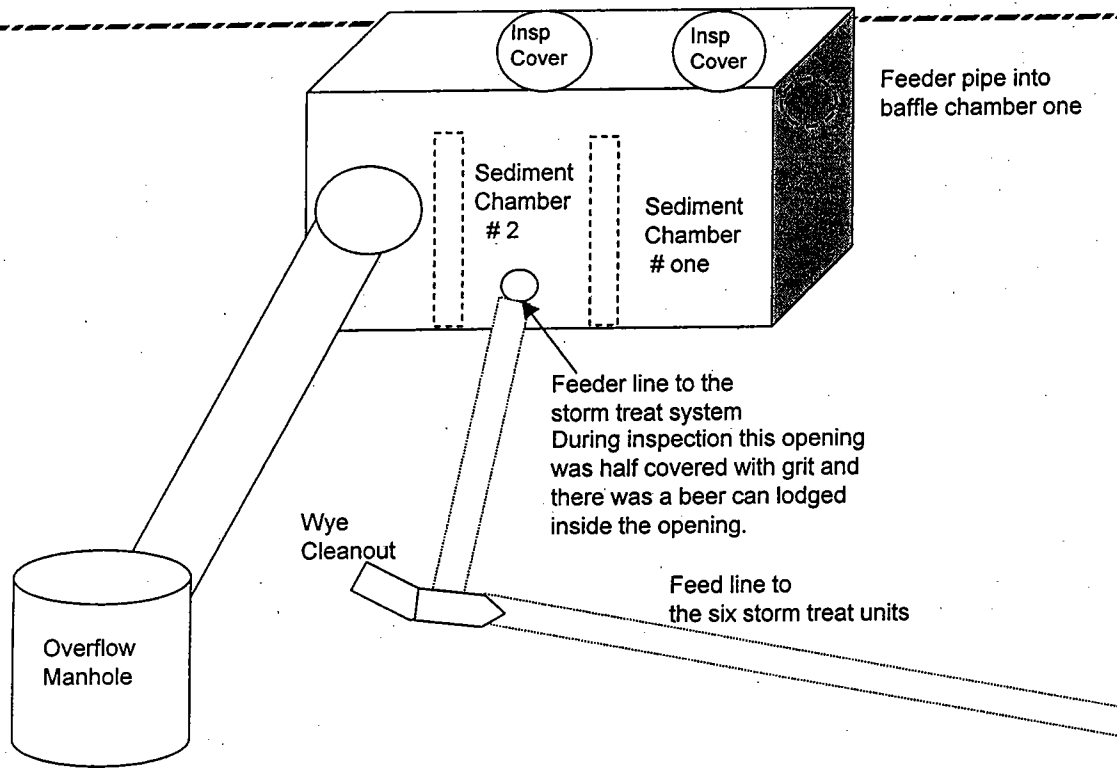
This redesign would assure the system would stay working during the six-month intervals between scheduled cleaning and inspections.

We will also have to plant six Day Lilly plants around each Stormtreat Unit to assure the removal of phosphorus and nitrogen is taking place as originally designed. I will work with the Parks and Rec department to see if we cannot get their landscape contractor to do this work for us.

# Storm Treat System

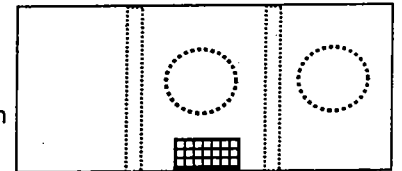
# Crystal Lake

# Maintenance Report



Build a wall with bricks around the opening that feeds the storm treat system. Also fasten a grate to the top of this brick work. This will assure that no cans, sticks, rocks or large objects get into the line the feeds the storm treat and causes a blockage

Top View of proposed design change



# Proposal



4 Commercial Lane, Londonderry, NH 03053 • (603) 437-4HOG • www.4hog.com

PROPOSAL SUBMITTED TO <u>City of Manchester</u>		PHONE <u>Rick Cantu</u> <u>624-6513</u>	DATE <u>May 12, 2005</u>
STREET		JOB NAME <u>Storm Treatment System</u>	
CITY, STATE and ZIP CODE		JOB LOCATION <u>Crystal Lake Public Park</u>	
ARCHITECT	DATE OF PLANS	<u>Jan-628-6234</u>	JOB PHONE

We hereby submit specifications and estimates for:

Daily planting

72	Hemerocallis asst.	1 GAL	9.99	719.28
3	Yds Composted loam	PER yd.	26.00	78.00
2	Fertilizer EXPENSE(B1)	46 fl oz	8.99	17.98
1	Labor EXPENSE			409.00
				<u>\$ 1,224.26</u>

**We Propose** hereby to furnish material and labor - complete in accordance with above specifications, for the sum of:  
(All materials property of Groundhog Landscaping until paid in full.)

Purchase Order -

Payment to be made as follows:

dollars (\$ \_\_\_\_\_).

All material is guaranteed to be as specified. All work is to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance.

Authorized  
Signature: Deanne Baker

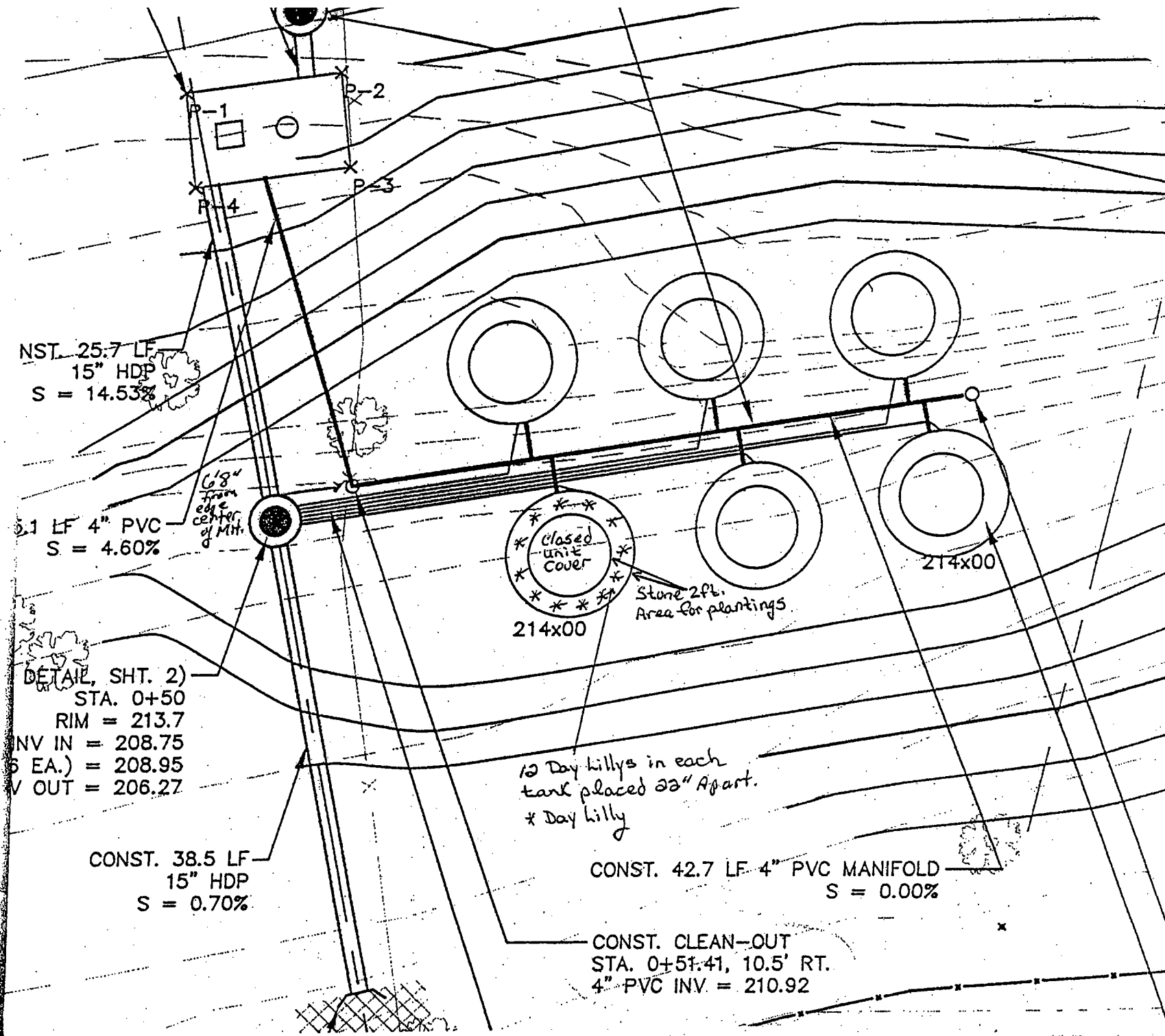
Note: This proposal may be withdrawn by us if not accepted within 14 days.

**Acceptance of Proposal** - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance: 6/3/05

Signature: Ricardo Cantu - Env Permits Coordinator

Signature: \_\_\_\_\_





## Storm Water Training Program Sewer Crew

1. Storm Treat System Over View – (StormTreatCD)
2. What is a Watershed and How Do We Protect It? – (WhyWatershedsCd)
3. Wastewater Treatment & Storm Water Impacts – (StudentOverviewRev)
4. After the Storm by EPA & The Weather Channel– (Video)
5. You can Help in the Battle of Non-point Source Pollution – (EarthDaySlideShowRev)
6. Manchester's Non-Point Source Issues – (NonPointRev)
7. Sources of Watershed Pollution in the Merrimack – (ManchesterNPSReduction)
8. Erosion Examples due to Lack of BMPs – (ErosionRev)
9. High Flows can Ruin Good BMP Measures – (BassIslandErosion)
10. It is the Small Issues that Create the Big Problems – (BeMyEyes)
11. Wrap Up

Date	Day	Time	Location
(1) 3/22/2005	Wednesday	7:30 AM	DPW Conference Rm
(2)			

### Training Session # Year 3 - Refresher

Name of People Attending :

<u><i>Donna Mac</i></u>		
<u><i>Daniel Richards</i></u>	<u><i>Mike Dockx</i></u>	
<u><i>Edward Gabor</i></u>	<u><i>Shawn Maurice</i></u>	
<u><i>Beck LEBLANC</i></u>		
<u><i>Tom Cronin</i></u>		





## Storm Water Training Program Sewer Crew

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10. It is the Small Issues that Create the Big Problems – (BeMyEyes)
11. Wrap Up

Date	Day	Time	Location
(1) 3/21/2005	Tuesday	7:30 AM	DPW Conference Rm
(2)			

### Training Session # Year 3 - Refresher

Name of People Attending :

Tom Moran

Tim Perkins

Paul Morway

Mar Muntz

Tom Petrowski

Jay Lorenz



## Storm Water Training Program Engineering Staff

1. Manchester Non-Point Source Issues – (NonPointrev)
2. Sources of Watershed Pollution – (ManchesterNPSReduction)
3. EPA NOI Overview – (enoioverview[1])
4. Examples of Failed and Poor BMPs – (Engineering2006BadBMP)
5. Examples of Erosion due to Lack of BMPs – (ErosionRev)
6. Good BMPs are not Guaranteed – Bass Island Example – (BassIslandErosion)
7. Site Review Paints a Rosy Picture – (EPABMPPresentation)
8. It's the Small Issues that Compound the Problems – (BeMyEyes)
9. The Ideal World of BMPs – (BMPIdeals)
10. Storm Treatment System Overview – (StormTreatCD)
11. Wrap Up

Date	Day	Time	Location
(1) 3/20/2005	Monday	10:30 AM	DPW Conference Rm
(2)			

Training Session # Year 3 - Refresher

Name of People Attending :

Dennis Anctil      Robert Polun      Ruth Kueck  
Paul Whelan      James Cohen      Rob Capone  
John W. Smith      James Zinn      \_\_\_\_\_  
David Glaser      William C. Martin      \_\_\_\_\_

June/July 2005

# The CITY MATTERS

A NEWSLETTER FOR AND BY THE EMPLOYEES OF MANCHESTER NEW HAMPSHIRE

## Events Committee Happenings

The Event's Committee is just bustling with activity. We have held several wonderful events and are planning many, many more.

Our Fratello's Post Holiday get together was a huge success. Everyone who went had a wonderful time and we hope to do this again next year. The Committee subsidized part of the employee's cost on this event through our calendar raffle to keep it affordable.

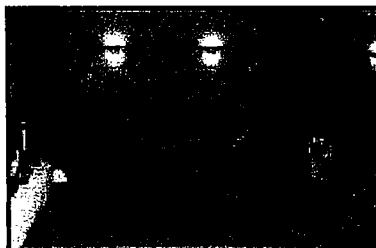


Another fun event was the tubing at McIntyre, which was completely free to employees and their families. This is the third time we have offered this event and it is such fun. Look for information on next years tubing event and sign up early. We also offer free skating at JFK Coliseum. There is no sign up for this event you just show up when you see the date announced. We would like to thank the Parks and Recreation Department for allowing us the use of these two facilities at no cost.



This is the third year we have had our Easter Bunny Breakfast. The children absolutely love this event and it is fun and inexpensive. The event was held shortly before Easter and besides the breakfast there were many prizes. Photos were offered of the children with the Easter Bunny at a small cost. The committee could not do this alone and would like to thank everyone who helped with this event. Paul

Koutroubas our EB, his wife and daughters, Gene and Barbara Mackie, Sandy Searles, Tom Boutilier, Alderman George Smith, Charlie Lavalley, and Billy Keith of the Sweeney Post, as well as our committee members. Thanks to Alderman Lopez for attending this event and all our events in support of our efforts. Our thanks to the Sweeney Post for donating this location so we can hold this event and keep the cost reasonable. This was another event that was subsidized by the events committee raffles and fundraisers.



Of course what would Manchester be without Baseball. Our committee arranged discount tickets at the very first Fisher Cat's game in their new stadium. The evening was a little brisk and it took awhile to get into the stadium but it was worth it. The evening was full of fun filled activities between innings and even though the Fisher Cats lost it was an enjoyable time for all. (cont. on page 2)

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#### Events Committee Happenings

Youth Services Helps Children Attend Ball Games

Good Question!!!

### 3 City Matters "Hanover Street - Changing Times"

### 4 Main Library Building Turns 90, Gets Cool Makeover

### 5 The City's Quality Council Is Looking For Potential New Members

Welcome the Newest Member of the MPD

### 6 Members First Credit Union

Special Programs from MFCU!

Health Insurance ID Cards

Arts in Manchester

Thanks Again to the Employee Events Committee

Mackie and Roy Said To Be Cooking Something Up!

Wellness Benefits for City Employees

### 7 EPD ups the Ante on Storm Water Treatment

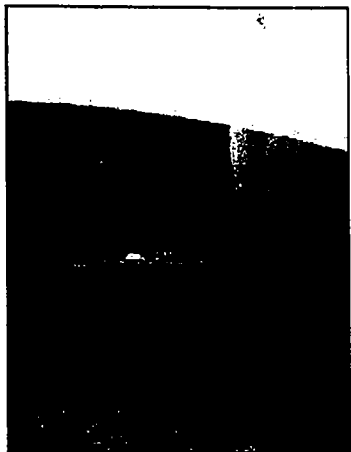
### 8 Peacetime Adjutant - Wartime Brigadier Joseph C. Abbott, Manchester, N.H.

## EPD ups the Ante on Storm Water Treatment

By Rick Cantu

The Environmental Protection Division is continuing the storm drain / sewer line separation work on the West Side of the City.

Last year extensive work was done in the neighborhoods surrounding Parkside School. These projects are being done to eliminate the combined sewer overflows (CSOs) that discharge directly to the Piscataquog River during periods of heavy rain. The CSOs that have been eliminated to date due to these ongoing projects are at Electric Street, Varney Street, Theophile Street, Sullivan Street and South Main Street (South).

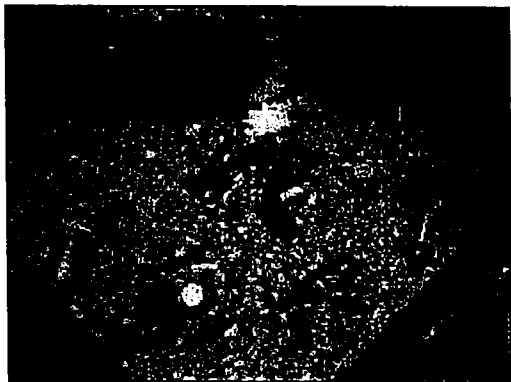


Last fall, a Vortech storm water treatment unit

was placed on Douglas Street. This unit is designed to treat 9.5 cubic feet per second (cfs) of water. You may wonder what this means in gallons. One cfs is equal to 1.55 million gallons of water over a 24-hour period. This would be equivalent to the treatment of over 14 million gallons of storm water over a 24-hour rain event.

The unit is designed with two objectives in mind. First it slows down the velocity of the incoming water and directs the energy to the bottom of the tank. This allows the sediment (sand, rocks, silt, glass, etc.) to settle to the bottom of the tank. This all happens within the first chamber or this baffle tank. The circular baffle (seen in the mid-section of the picture) directs the energy downward and also slows the flow. This is where the sediment collects. One can also see that there is some floating debris on the top of the water.

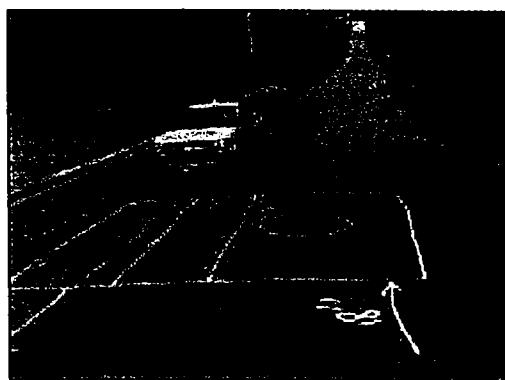
There are openings in the baffle structure that allows the flow to exit this energy dissipater



ong with the collected floatables. This floatable debris is collected outside the circular baffle inside the first and part of

the second baffle chamber. Floatables consist of paper cups, plastic bottles, jars, Styrofoam, cigarette butts, sticks, and any debris that floats on the water surface. As you can see in the picture there is quite a collection of material. This unit was put in place in late September of 2004 and checked by staff in early April 2005. This was a period of a little over six months. There was over one, 55-gallon trash bag of floatable materials sitting on top on the water. There was also a depth of sediment of approximately 18 inches in the first chamber. This would be equal to approximately three or four cubic yards of sand.

This unit serves a small drainage area in comparison to all of the city drainage. A rough example would be 1/500<sup>th</sup> of the City's total drainage area. If this Vortech unit had not



been installed, all of this floatable garbage and sediment would have ended up in the Piscataquog River - and that was during a six-month

period! Now double that to get an idea of what a small area contributes over a year. Now multiply that by 500 to see what amounts of sediment and floatable debris is generated throughout the City.

The next time you think of throwing a cigarette but or plastic bottle out your car window, think of these numbers. Even small pieces of paper and plastic contribute to this waste going directly to the rivers.

The City has taken steps to collect this type of material in other areas of the City. There are three baffle tanks installed around Dorrs Pond and one at Crystal Lake. One or more these or similar units are in the planning stages for Nutts Pond.

You'll never see these units, but the outline on Douglas Street gives you an idea of what is happening under your feet in Manchester's storm drain system. Outta sight, outta mind no longer applies in a world where the environment can no longer taken for granted. Manchester is doing its part by installing these devices. Please contribute to this effort by thinking consciously before discarding any trash.

August/September 2005

# The CITY MATTERS

A NEWSLETTER FOR AND BY THE EMPLOYEES OF MANCHESTER, NEW HAMPSHIRE

## Don't Be Surprised if the Bottled Water You Drink Comes from Your Own Back Yard!

By Rick Cantu

"Do you know the source of the bottled water you're drinking?" Rick Cantu questioned the group of Parkside students along the Piscataquog River behind the Westside Arena. The students were participating in a four-station activity event planned for the day. This was the water analyzing station. Other stations included identifying invasive species at the Electric Street Dam, visiting a construction site in the Notre Dame Avenue area and collecting benthic organisms and macroinvertebrates at a site below the lab station.



Students participated in the analysis of the water for pH, temperature, chlorine, hardness and alkalinity. They were placed in groups of three and each individual was

given a task of getting the water sample, or asked to test the water with another asked to record the results of the testing.

The testing data was matched against a chart for healthy stream ecology. "Is the water capable of supporting trout and salmon?" Rick asked?" The students voiced a collective, "Yes." All parameters fell within the criteria for water capable of supporting the sensitive species of game fish.



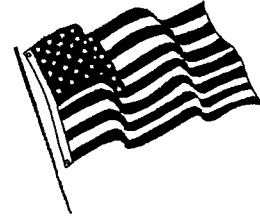
The dissolved oxygen sampling was the highlight of the experience. Chemical reactions changed stream water from clear to cloudy a cloudy liquid and then formed a fuzzy looking floc that settled to the bottom of the test bottle. Another chemical was added that changed the floc to a yellow liquid. A third chemical was added to the yellow liquid, drop by drop, until the sample went clear. The number of drops was the amount of oxygen in the water. Student results fell between 8 and 10 mg/l of oxygen. The chart stated that oxygen levels above 6 mg/l was good for sensitive fish populations.



Hot water from a thermos was then analyzed. The students were surprised to see that clean hot water only held 3 mg/l of oxygen. "Oxygen saturation drops in water as it becomes warmer; the water holds less oxygen" Rick said. "That is why the summer time is most stressful on fish populations. Warm stagnant pools and low flows in rivers make it difficult for fish to complete their life cycles."

Most students thought the answer to the question about the source of the bottled water was from deep underground springs. "What is better for you to drink, City water or bottled water?" Rick asked. "Bottled water," was the overwhelming student response. It was explained to the students that the bottle of Dasani® water was actually City of Manchester water from Lake Massabesic. The students were very surprised. Rick stated, "Look at the bottle cap. It says Coca-Cola Bottling Company of Northern New England, Londonderry, New Hampshire. This is 99.99% City of Manchester drinking water. Coca-Cola removes the chlorine through a purification process and then they add magnesium, potassium and phosphorous to give the water the mineral taste that is common with spring water. See the bottled water you drink can come from your own back yard!"

Reflecting back... September 11th



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The Look of Opportunity

How's your Manchester trivia knowledge?

"I Can See Clearly Now"

#### 3 CITY MATTERS: Gone, But Not Forgotten....Part 2 Side Story

#### 4 Employee Events Calendar Drawing!!

Did You Know This?

Quality Council Officer Election  
News

Words To Work By

#### 5 Charles Haradon, Civil War Cavalryman, Prisoner of War Casualty

#### 6 Protecting Your Identity

#### 7 "Don't Let the Educational Bus Pass You By"

#### 8 Mother Nature Tests City's Resolve at Earth Day Event

# Mother Nature Tests City's Resolve at Earth Day Event

By: Rick Cantu - EPD

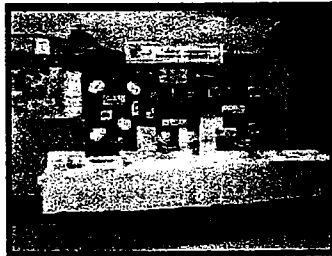
On Saturday, April 23<sup>rd</sup>, the City, working with the Student Conservation Association (SCA), planned an Earth Day Event at Veterans Park. The weather had not cooperated all week and the forecast for Saturday was heavy rain. Due to this the venue was changed to the Salvation Army building on Cedar Street.

SCA had spearheaded the coordination of the Day's events with a scheduled clearing of a portion of the Rails-to-Trails project from Nutt's Pond to the Fischer Cat Stadium.



With additional volunteers available, the Urban Pond clean up at Nutts Pond was scheduled to coincide with these events. There were approximately 50 individuals that participated in both assignments.

Several bags of garbage were picked up at the pond and hundreds of pounds of woody debris collected from the Rails-to-Trails project.



The gymnasium at the Salvation Army was lined with booths that displayed environmentally friendly themes. There was information in regards to solar power, rain barrels, environmental regulations, wetlands, gas hybrid

vehicles, recycling, pond protection, environmental art work and a host of other information.

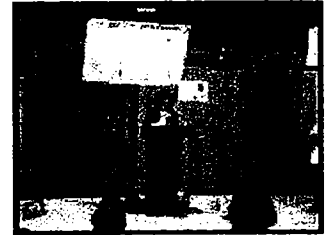
A live Owl demonstration given by the Audubon Society along with live music brightened up the dreary day.

The music ranged from soloists, to duos to the final act: a variety of high-energy music provided by Funk Foot.

The New Hampshire Department of Environmental Services (NHDES) brought along three of their gas hybrid vehicles. These cars sat in the rain all day, but were left open for individuals to get a flavor for how they work. Even in the pouring rain these vehicles drew quite a bit of attention. NHDES did start them to demonstrate the quiet efficient capability of these environmentally friendly vehicles.



Jane Beaulieu was a guest speaker during the morning session. She reinforced the need for everyone living in Manchester to do his or her part in the stewardship of the land and water we so dearly rely on.



She went on to talk about the projects "For Manchester" have completed and the vision for the future of Manchester in regards to environmental projects.

Hector Valez was the guest speaker during the afternoon session. Hector was director of the Salvation Army and the SCA has worked with this organization for several years. Hector spoke regarding the SCA's interaction with several Salvation Army activities over the years. Hector is a New Hampshire State Representative and a leader in the Manchester Latino Community.

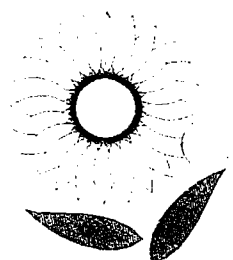
The featured speaker of the day was Liz Titus-Putnam. She attended Vassar College and wrote her thesis on the idea of forming a volunteer organization in the mold of the SCA. A few years later, in 1957, she organized the SCA. This all began in the State of Washington and initially was only open to young men. Today this organization is open to all genders and reaches across the country from coast-to-coast with thousands participating.

After the crews had returned from work on the trails and pond, they were all treated to lunch to refuel their wet tired bodies. There were plenty of Subway and Quiznos sandwiches to go around. Add to that Pappy's and Papa John's Pizza, pasta and potato salad, and several varieties of desserts and then we were talking a real celebration.

There were plenty of sombreros; chips and salsa donated by Margaritas for everyone and all volunteers received an SCA volunteer tee shirt. The children were treated to games, face painting, button making and were invited to design their own tee shirts and water bottles.

There was enough rain that day to even make the ducks miserable! However, with the enthusiasm of youth and the determination of the elder crowd, this Earth Day's events were an unqualified success.

Many thanks to the SCA staff, volunteers, vendors and folks who provided items to make this an eventful day and enjoyable for all.



October/November 2005

# The CITY MATTERS

A NEWSLETTER FOR AND BY THE EMPLOYEES OF MANCHESTER, NEW HAMPSHIRE

## Employee Appreciation BBQ September 28, 2005



(Left to right) Alderman-at-Large Lopez  
Winner Health Department - Mary Rheault  
QC Chaperone - Gene Mackie  
Employee Events Committee Member - Anne Hatin



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|--|--|

## CIPP The Solution For Derryfield Lane

By Robert Robinson, EPD

The Highway Department and the EPD were faced with a challenge on how to repair or replace a sewer line that was in poor condition. The site conditions posed the biggest challenge. Derryfield Lane is located downtown between Chestnut and Nutfield Lane. It is a narrow alleyway with utilities located in the roadbed above the sewer. Because of these conditions excavation to replace the sewer line was not an option. The other challenge involved scheduling the work. Because of businesses in the area the job had to be performed during the night over a weekend.



The solution for this sewer project was determined to be CIPP (Cured-in-Place-Pipe). The contractor that was selected to perform the work was Insituform Technologies®, Inc. Insituform® in England developed the CIPP

process in the early seventies. In this process a new pipe is placed in the old pipe. There is no excavation or disturbance of the roadbed and sewer downtime is hours, not days or even weeks as in conventional methods.

Insituform® manufactures the tube. The tube is made out of felt and is permanently bonded to a continuous layer of polyethylene. The tube is then filled with resin using a vacuum impregnation process. The tube is then delivered to the site in a refrigerated truck for installation.

The installation process involves the following steps:

1. The sewer line is cleaned and inspected using a sewer jetter truck and a camera truck using a closed circuit television / sewer camera setup. The location of service laterals is noted for opening when the line is cured.
2. The resin-filled tube is inverted (turned inside out) and feed through their Controlled Head Inversion Process unit into the manhole and into the sewer line.
3. Water pressure is used to propel the tube down to the other manhole. It is then secured in place.
4. After the tube is fully inverted, hot water is circulated through it. A boiler truck is onsite to provide the hot water. The pipe is held at 180 degrees Fahrenheit for one hour. This process cures the thermosetting resin and provides a new pipe inside the old sewer line.
5. The ends of the new pipe are cutoff next at the manholes. The robotic cutter is sent down the new pipe to cut open the service laterals to restore the service.
6. The line is cleaned again using the sewer jetter and inspected with the closed circuit television sewer camera setup.



The job took place in May and was a success. The new line is smooth and structurally sound. The sewer flows nicely. Please note the before and after photos located below.

## City Retirement Now Accepts Certain Tax Sheltered Funds

Until now, if you were buying temporary service, buying back previously withdrawn service from an earlier period of employment, or contributing funds to obtain creditable service for time while you were out on worker's compensation, you had to use after tax dollars to complete your transaction. As of September 13, 2005 however, members with money in 401(k), 403 (b) or 457 plans can use those funds to purchase permissive service in the Manchester Employees' Contributory Retirement System, (MECRS) by executing a "trustee to trustee transfer" as long as the sending plan also permits such transactions. Since permissive service purchases are the only allowable transactions where tax sheltered funds can be accepted, other voluntary payments such as those made under the plan's "Additional Contribution Program" are not eligible and must continued to be made with after tax dollars.

Not all tax sheltered funds; (most notably IRAs) can be accepted under this new program. For employer sponsored plans including the City Deferred Compensation 457 Plan however, as long as that plan allows a member to transfer funds, the MECRS can now accept such funds as a result of its new rule which takes advantage of certain IRS regulations designed to allow for greater pension portability. For interested parties, City Retirement has a two page application form which needs to be completed by the member, the sending plan, and then approved by the retirement system which facilitates the process. The forms can be obtained by calling the retirement system at 624-6506 and can also be downloaded from their website at <http://www.manchesterretirement.org>, (click on "Forms" and then select "Application Accepting Tax Shelter Funds").

For more information about the use and limitations of trustee to trustee transfers, contact City Retirement at 624-6506 and ask to speak with Executive Director Gerry Fleury.



Dec. 2005 - Jan. 2006

# The CITY MATTERS

A NEWSLETTER FOR AND BY THE EMPLOYEES OF MANCHESTER, NEW HAMPSHIRE



\* to You,  
\* Your  
\* Families  
\* and  
\* Friends



## Urban Ponds

By Art Grindle

The Manchester Urban Ponds Restoration Program would like to thank the dedicated team of volunteers that have pitched in and helped clean up Manchester's water bodies over the past six years. During that time, the Program has collected more than 7 and a half tons of trash at 40 volunteer clean up events at Manchester's urban ponds. In total, more than 170 volunteers have logged 662 hours on behalf of the Urban Ponds Restoration Program for a value of approximately \$12,534. Many thanks are owed to all those who have contributed over the years!

*Congratulations to Gerry Coulter on his retirement. Gerry worked for the city for over 44 years. In this photo, Ron Ludwig gives Gerry a plaque.*



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**City Of Manchester  
Department of Highways  
Environmental Protection Division**

300 Winston Street  
Manchester, New Hampshire 03103-6826  
(603) 624-6595 Fax (603) 628-6234

Frank C. Thomas, P.E.  
Public Works Director

Kevin A. Sheppard, P.E.  
Deputy Public Works Director

December 20, 2005

Mr. Tim Roberts  
Road Agent  
Town of Sandown  
P.O. Box 1756  
Sandown, NH 03873

#05-019-EPC

Re: Merrimack River Watershed – Storm Water Assessment Team (S.W.A.T)

Dear Tim:

Our storm water group was informed that the Atkinson group recently dissolved. Our group consists of the communities involving Auburn, Bedford, Goffstown, Hooksett, Londonderry and Manchester. We typically meet bi-monthly and interact on various issues. We have been meeting in Manchester, but we are considering moving the meetings to Londonderry in the future.

Each individual community participates by updating the group on how they are progressing on their minimum controls, offers guidance on issues they have dealt with, and ask questions in regards to issues or regulations of which that they are not familiar.

Our group is very supportive of each other and we provide assistance to one another when the need dictates. All the meetings have minutes (I have enclosed an example) and we do additional Q&A and contacts via email.

We would welcome your community into our group and I would be willing to meet with you to give an update on what our group has done over the past two years.

If you have any questions please give me a call at 624-6513 or email me direct at [rcantu@manchesternh.gov](mailto:rcantu@manchesternh.gov)

Sincerely,

Rick Cantu  
Chair of S.W.A.T.

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ATTACHMENT AD

**City Of Manchester  
Department of Highways  
Environmental Protection Division**

300 Winston Street  
Manchester, New Hampshire 03103-6826  
(603) 624-6595 Fax (603) 628-6234

Frank C. Thomas, P.E.  
Public Works Director

Kevin A. Sheppard, P.E.  
Deputy Public Works Director

December 20, 2005

Mr. John Worten  
Road Agent  
Town of Hampstead  
11 Main Street  
Hampstead, NH 03841

#05-019-EPC

Re: Merrimack River Watershed – Storm Water Assessment Team (S.W.A.T)

Dear John:

Our storm water group was informed that the Atkinson group recently dissolved. Our group consists of the communities involving Auburn, Bedford, Goffstown, Hooksett, Londonderry and Manchester. We typically meet bi-monthly and interact on various issues. We have been meeting in Manchester, but we are considering moving the meetings to Londonderry in the future.

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If you have any questions please give me a call at 624-6513 or email me direct at [rcantu@manchesternh.gov](mailto:rcantu@manchesternh.gov)

Sincerely,

Rick Cantu  
Chair of S.W.A.T.

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**City Of Manchester  
Department of Highways  
Environmental Protection Division**

300 Winston Street  
Manchester, New Hampshire 03103-6826  
(603) 624-6595 Fax (603) 628-6234

Frank C. Thomas, P.E.  
Public Works Director

Kevin A. Sheppard, P.E.  
Deputy Public Works Director

December 20, 2005

Mr. Bruce Caillouette  
Road Agent  
Town of Danville  
12 Long Pond Road  
Danville, NH 03813

#05-019-EPC

Re: Merrimack River Watershed – Storm Water Assessment Team (S.W.A.T)

Dear Bruce:

Our storm water group was informed that the Atkinson group recently dissolved. Our group consists of the communities involving Auburn, Bedford, Goffstown, Hooksett, Londonderry and Manchester. We typically meet bi-monthly and interact on various issues. We have been meeting in Manchester, but we are considering moving the meetings to Londonderry in the future.

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If you have any questions please give me a call at 624-6513 or email me direct at [rcantu@manchesternh.gov](mailto:rcantu@manchesternh.gov)

Sincerely,

Rick Cantu  
Chair of S.W.A.T.

H:\StormWater\Towns\DanvilleInvite.doc

## Phase II Storm Water Meeting

Minutes of the 5/17/05 Meeting held at EPD office in Manchester, NH at 1:30 PM

**Present:**

John R. Trottier	-	Londonderry, NH	<a href="mailto:JRTROTTIER@Londonderry.org">JRTROTTIER@Londonderry.org</a>
Tom Fatcheric	-	Goffstown, NH	<a href="mailto:tfatcheric@ci.goffstown.nh.us">tfatcheric@ci.goffstown.nh.us</a>
Rick Cantu	-	Manchester, NH	<a href="mailto:rcantu@ci.manchester.nh.us">rcantu@ci.manchester.nh.us</a>
Janusz Czyzowski	-	Londonderry, NH	<a href="mailto:jczyzowski@londonderry.org">jczyzowski@londonderry.org</a>
Jim Stanford	-	Bedford, NH	<a href="mailto:jsanford@ci.bedford.nh.us">jsanford@ci.bedford.nh.us</a>

**Annual Report Updates**

Each City/Town has sent in their annual report for 2004/2005 reporting year. There were discussions on how it is now not only the EPA that reviews the report, but also the Conservation Law Foundation and possibly other environmental groups. This group reviewed the annual report submissions from last and cited four of the EPA approved programs in NH with deficiencies. They are looking for gaps of what was initially promised and what is currently being delivered to build future cases for stronger enforcement of the storm water rule.

**Asist Training Demonstration**

The developer of the Asist Program (program to help groups manage their storm water program) will be holding a demonstration in Manchester on Monday, May 23<sup>rd</sup>. It will be a run through the program data that they have collected from some other storm water programs. There are systems for monitoring, construction and reporting. Everyone in the group is welcome to attend.

**Status of State-wide Group Meeting**

The original meeting was set for Fratello's on September 21<sup>st</sup>. As emails have not made it to the NHDOT staff, there is concern that this meeting has stalled. As individual groups we don't see our ability to schedule and pay for a venue at Fratello's when we are very vague as to how many people from the four groups would attend. It is believed that our group and the Nashua group will continue on with their meetings, but we're not so sure there is enough structure within the Atkinson and Seacoast groups to keep their interest up.

Discussed alternative annual meeting. Jim said that BCTV in Bedford could easily accommodate 20 to 25 storm water people for a meeting. Rick knows the Manchester Water Works can hold about 40 people. It was discussed that we consider holding a half-day session (8:00 to noon) to get to know everyone and get a few topics out for discussion. Also we'd get a feel if this were a good venue to continue and possibly expand to a full-day session. Rick will contact the Nashua group to get their ideas on this.

**Dealing with Other Permit Conflicts**

Manchester came upon a situation where there was another permit/easement that was provided to a local developer that was not disclosed to Manchester. The Storm Water Pollution Prevention Plan and site plan was clear on the limits for construction activity. The contractor had worked outside this area, along the shore of the Merrimack River and up to the river's edge (ignoring the 25-foot minimum required setback). When confronted with the issue the owner provided a letter from the National Fish and Wildlife Organization that was endorsed by the NH Fish and Game along with some NH delegate congressional backing that clearly was in opposition to the site plan limits.

Discuss centered around on issues like this, which permit takes precedence? Should the contractor have disclosed the permit/easement allowances (this easement was obtained six months after Manchester approvals had been granted)? Should there be language in Ordinances that state "If other obtained permits are not disclosed during the construction phases of any project to the City/Town, then the City/Town's conditions and requirements shall prevail."

**Ordinance Update**

Manchester's has completed all the internal reviews of the Ordinance and Rules & Regulations and it will go before the Highway Commission during the first meeting in June. From there it will go on to the City Council's Ordinance Committee for review and enrollment. Rick will send each member of the group the final approved Ordinance and Rules & Regulations once finalized.

**Outreach Updates**

Londonderry had a "Leadership Londonderry" presentation during the day of voting and at other Londonderry civic events. A slide show on erosion controls and storm water buttons were handed out to the residents.

Goffstown had a Public Works day for the students where construction equipment was taken to the elementary schools and demonstrated. The students were also informed on ways to control storm water and identify erosion.

Manchester participated with the Student Conservation Association (SCA) on Earth Day. Manchester provided some funding and also assisted with the coordination of events that was spearheaded by the SCA. All groups should take credit for any outreach that relates to storm water, construction or erosion within their communities, whether or not is was primarily developed by the City/Town.

Goffstown continues to post Town newsletters at the local businesses that have articles on storm water.

There is still an uncertainty among the group as to what is appropriate outreach to the schools, how much is expected and what is the EPA's view on what they would like to see.

**Other Business**

There was talk about what was seen at the UNH tour. Some of the group members who didn't make the first tour are scheduled for later tours. There was talk about how those structural units (that promise 80% removal of sediments) are actually achieving closer to 50%. The group is awaiting the final full report on the systems and gathered data.

Bedford talked about a project at the Stop & Shop that had a collapsed pipe that ran toward the Wayfarer Inn. There was much finger pointing as to who missed the errors during the inspection. The problem couldn't immediately be resolved at the contractor, town, developer's engineer and developer all pointed fingers as to who dropped the ball. Stop & Shop was forced to remedy the situation until the oversight issues could be sorted out. It was imperative this get resolved immediately as road work and new paving was happening over this drain within the week.

**Next Meeting Date**

The next meeting is scheduled for Tuesday, August 2, 2005 at **1:30 PM**. The agenda will be emailed a few weeks before the meeting. The meeting will be held at the EPD Administration Building in Manchester.

## Phase II Storm Water Meeting

Minutes of the 8/2/05 Meeting held at EPD office in Manchester, NH at 1:30 PM

### Present:

Tom Fatcheric	–	Goffstown, NH	<a href="mailto:tfatcheric@ci.goffstown.nh.us">tfatcheric@ci.goffstown.nh.us</a>
Rick Cantu	–	Manchester, NH	<a href="mailto:rcantu@ci.manchester.nh.us">rcantu@ci.manchester.nh.us</a>
Jim Stanford	–	Bedford, NH	<a href="mailto:jsanford@ci.bedford.nh.us">jsanford@ci.bedford.nh.us</a>
Mark Hemmerlein	–	NHDOT	<a href="mailto:Mhemmerlein@dot.state.nh.us">Mhemmerlein@dot.state.nh.us</a>
Alan Cote	–	Derry, NH	<a href="mailto:Acote@ci.derry.nh.us">Acote@ci.derry.nh.us</a>

### Annual Report Updates

All towns have sent in their annual reports. There have been no comments received by any of the communities and there have been no new audits that have transpired since the last meeting.

Some of the communities have dropped some of the items they originally submitted as part of the BMP task listing as they have not panned out (mainly the formation of committees). Other priorities have changed. Most of the communities have three tasks associated with each minimum control (Six-minimum controls – 18 tasks total).

The issue of CB maintenance under one of the task items came up. Derry, Bedford and Manchester contract work with Bellmore CB Cleaning service. The NHDOT uses their clamshell buckets and Goffstown does their own CB cleaning with a vactor.

### Annual Meeting Update

Mark's division (NHDOT) is going to focus more on the field gathering and GIS mapping for the State. He will not have time to coordinate the annual meeting as Deb had been doing. He talked with Barbara Macmillan and Jeff Andrews of the river assessment section and they will be coordinating a meeting with the chairs to continue the process of the annual meeting. The September 23<sup>rd</sup> meeting set for Fratello's is cancelled. Mark said the NHDOT still has a pot of money earmarked for that kind of meeting. Mark thought a meeting sometime in January might be appropriate. The group voiced concerns about storms or icing and not being able to make the meeting due to that. It was believed a meeting sometime in mid to late October or in November before the week of Thanksgiving might be the best solution.

Rick will check with Barbara to see about holding a meeting with the chairs of the four regions and then setting an agenda and speakers for a meeting for the October/November time frame. He will keep the group posted on the progress.

Mark asked if anyone planed on attending the UNH T2 – Winter Operations Training seminar set for October. Attendees said they were not sure as they had been attending these sessions for the past few years and the information was now redundant.



Mark said the NHDOT has 55 stations that measure air temperature, wind speed, salinity in brooks and pavement temperature. These are around the I-93 corridor to measure for the expansion project due to the salt issues. There are stations on the tributaries that are adjacent to the highway. This information is available to the communities if it is needed.

### **Ordinance Updates**

Rick said that Manchester has sent the Ordinance to the Board of Mayor and Alderman. The City Clerk's Office did not like the idea of the Ordinance being separate from the Rules and Regulations. The DPW Director and City Attorney insisted this was the way to go so it was presented at the meeting as two separate documents. The Ordinance and the Rules & Regulations was referred to the Committee for Bills on Second Reading and there will be a workshop on the items contained within the two documents.

There is no other activity associated with Ordinances in the other communities.

### **Storm Water Library**

Rick passed out a listing of 150 Articles from the Center for Watershed Protection. Many of these articles have appeared in their featured publications and usually run between three and eight pages. They cover many topics that are important to the communities.

As the meetings are beginning to become redundant while covering the same issues, he thought it might be good to discuss one or two if the articles from the list at each meeting to have a training session associated with the meetings. All present were in favor of the concept.

Manchester came upon a situation where there was another permit/easement that was provided to a local developer that was not disclosed to Manchester. The Storm Water Pollution Prevention Plan and site plan was clear on the limits for construction activity. The contractor had worked outside this area, along the shore of the Merrimack River and up to the river's edge (ignoring the 25-foot minimum required setback). When confronted with the issue the owner provided a letter from the National Fish and Wildlife Organization that was endorsed by the NH Fish and Game along with some NH delegate congressional backing that clearly was in opposition to the site plan limits.

Discuss centered around on issues like this, which permit takes precedence? Should the contractor have disclosed the permit/easement allowances (this easement was obtained six months after Manchester approvals had been granted)? Should there be language in Ordinances that state "If other obtained permits are not disclosed during the construction phases of any project to the City/Town, then the City/Town's conditions and requirements shall prevail."

### **Tracking Required Inspections that need to be performed by Contractors**

A sheet from weather.com was passed out to each participant. In this sheet the current month rainfall and the previous month rainfall could be viewed for any zip code. It is a good idea to print this sheet on a monthly basis and when an inspector checks a

construction site; they can tell which days were greater than 0.5 inches of rain. The site should have an inspection for each one of these events along with the usual weekly checklist. It is a good idea to take pictures of any inconsistencies in the BMPs and compare these on a weekly basis. Even though the site inspection checklist may all be checked good or no problems, you may see that the same issues exist week in and week out with no change. You can document these and bring them to the attention of the site inspector and ask why they check that all is in order with the BMPs when in fact they are not.

### **Other Business**

Tom mentioned that the ASIST Software for tracking storm water data couldn't be interfaced with any GIS program. It is a stand-alone database and only categorizes and sorts that data that is input directly into the program. It would be of no use for a field GPS system to interface and track drain system maintenance activities.

The State of NH has a team who is going along the Merrimack River to track illicit discharges. They will be doing the portion of the Merrimack River from Bedford up through Goffstown and the tributary side rivers like the Piscataquog. Steve Landry of the NHDES is coordinating this.

Mark asked how does one control assuring that all the BMPs are completed before the contractor leaves the site. It is good to get all departments involved in the approval process on board with the storm water regulations. Let the planning department, building department and local engineering inspectors know that there is a final termination notice with many requirements before a site is fully released.

This can be accomplished through retainage, maintenance agreements and holding back at least the last remaining certificate of occupancy (CO). This could be done until the storm water inspector and site engineers have done a final inspection and have signed off that all the work has been completed in accordance with the Storm Water Pollution Prevention Plan and the local requirements. This would be the final step before the last CO is given to the developer/contractor.

### **Next Meeting Date**

The next meeting is scheduled for Tuesday, October 4, 2005 at 1:30 PM. The agenda will be emailed a few weeks before the meeting. The meeting will be held at the EPD Administration Building in Manchester.

## Phase II Storm Water Meeting

Minutes of the 12/7/05 Meeting held at EPD office in Manchester, NH at 1:30 PM

### Present:

Tom Fatcheric	–	Goffstown, NH	<a href="mailto:tfatcheric@ci.goffstown.nh.us">tfatcheric@ci.goffstown.nh.us</a>
Rick Cantu	-	Manchester, NH	<a href="mailto:rcantu@ci.manchester.nh.us">rcantu@ci.manchester.nh.us</a>
John Trottier	-	Londonderry, NH	<a href="mailto:jrtrottier@londonderry.nh.org">jrtrottier@londonderry.nh.org</a>
Mark Hemmerlein	-	NHDOT	<a href="mailto:Mhemmerlein@dot.state.nh.us">Mhemmerlein@dot.state.nh.us</a>
Alan Cote	-	Derry, NH	<a href="mailto:Acote@ci.derry.nh.us">Acote@ci.derry.nh.us</a>
Liz Robidoux	-	Auburn, NH	<a href="mailto:erobidoux@comcast.net">erobidoux@comcast.net</a>
Janusz Czychowski		Londonderry, NH	<a href="mailto:jczykowski@londonderry.nh.org">jczykowski@londonderry.nh.org</a>

### Annual Report Updates

All towns have sent in their annual reports. There have been no comments received by any of the communities in response to the submissions. Londonderry did receive a phone call from Thelma and listed several dates that they would be available for an audit.

### Annual Meeting Update

The chairs of the various regions will be meeting on December 13<sup>th</sup> to review the draft agenda for the first annual meeting. The meeting will be held in May of 2006 at Fratello's in Manchester. As new information comes forward, it will either be discussed at the next group meeting, or an email will be sent to members.

Mark stated that the Atkinson group has disbanded and he is trying to get the various communities into the other three groups. The former group will probably have three of the communities go to Nashua Coalition, three to the Seacoast and three to Manchester. The group unanimously approved having the members of the Atkinson group join our Manchester area group. We also discussed the possibility of having the meeting moved to Londonderry's new office locations as they have a larger conference area.

### Ordinance Updates

Manchester's proposed ordinance has gone through the first reading. There were developer comments, comments from an engineering firm, and a few private citizen comments received. The Board of Mayor and Aldermen asked that these issues be addressed before the "Bills on Second Reading" was scheduled. There was also a question that a review be done by the City Solicitor and that the Solicitor's Department issued a letter stating that the Ordinance, as presented, would support the Rules & Regulations and vice-versa.

The meetings with concerned parties and their concerns were addressed. There are outstanding language issues with 40CFR and the ability to have Rules & Regulations. The Federal Code states "Communities shall develop an Ordinance, or other regulatory mechanisms...." The question raised is does this rule out two enforcement documents

and that there can only be one type of document or another? Thelma is looking into this issue. Rick will email the members copies of Manchester's latest draft ordinance and regulations.

Mark stated that towns may want to start thinking of their ordinances in regards to TMDLs, the implementation of reduced salt areas and the possibility of having language to allow for the implementation of a storm water utility. Salt issues have become an issue with the expansion of the I-93 turnpike between the State and EPA. The State is currently developing TMDLs for the rivers that abut the turnpike. That will affect the towns along this corridor. There are also issues with sand and sediment loading. Sand is not an effective deicer as it doesn't break the bond of ice build up on the highways and after a few vehicles pass over the application the sand is gone. Sanding also impairs air quality when it gets airborne due to fast moving vehicle traffic or windy conditions.

Rick stated that in the grant application for Nutts Pond water quality improvements, there was a requirement that the City go to the commercial establishments in that watershed and discuss their use of salt during the parking lot cleaning activities during the winter.

There were no other actions taken by the communities in regards to Ordinance development.

#### **Illicit Discharge Manual**

Rick passed around a copy of the EPA's Illicit Discharge Manual as developed by the Center for Watershed Protection. The manual is a good step-by-step guide on how to develop an illicit discharge program.

Some of the members have received the manual where some did not. A copy of the address and other contact information was made and distributed to the group so that everyone could obtain a copy.

#### **Training – Strengthening Silt Fences (SFs)**

A new aspect of the meetings will be a training portion. This meetings' training was on Strengthening Silt Fences. The training manual that is being used is called "The Practice of Watershed Protection" (Techniques for protection our nation's streams, lakes, rivers and estuaries). This manual has 150 articles that are typically four or five pages in length. The highlights of the Strengthening Silt Fences (Article #56) are listed below:

- SFs are the most widely uses and misused erosion and sediment control practices;
- SFs trap sediment in construction runoff before it washes into the street;
- The pores in geotextile fabric filter out sediment particles (settling is the most important sediment removal function of SFs);
- Removal efficiencies of SFs have ranged from 36% to as high as 86%;
- SFs are ineffective at removing turbidity and on steep slopes;
- SFs have replaced the use of hay bales that are completely ineffective in erosion control;

- SF visibility are a good public relations tool as they are an “advertisement” for erosion and sediment control;
- Studies have shown that only 58% of SFs are installed and that the maintenance aspect drops to 34% once installed;
- The best SF fabric is a strong fabric with a low flow-through rate as it offers the greatest settling time;
- SF installation can be improved by using thicker, longer posts that are placed closer together;
- A good practice is to include a 10-foot grass buffer between the construction activity and the SF;
- Super SFs are used on very steep slopes with long slope runs;
- Scoop traps can be used on the bottom of steep slopes to provide additional ponding volume;
- SF anchors are used to hold the fabric in place on steep slopes;
- SFs, once installed, tend to be forgotten and are perceived as a “no maintenance” practice. In reality, most silt fences will need extensive repair to function properly.

### **Issues With Local Complianace**

There have been compliance issues in Manchester with tree cutting in an area where eagles perch and also at a site that is ½ acre where the erosion is extensive and going into one of the Urban Ponds.

The issue with enforcement in regards to cutting of the trees is very complicated. There are issues with enforcement authority, departmental jurisdictions (planning, building, highways, engineering, US Fish & Wildlife, and the NH Fish & Game). If the ordinance had been in place remedial actions could have been taken and fines issued very early on during the initial violation. As it stands now, there may never be any real enforcement on this gross act of negligence.

As the small project is under one acre only the building department has enforcement authority in Manchester. They are not aware of erosion control requirements and issues and it will be hard to get them to issue a cease and decist order where they have never done this in the past with similar single family home issues. A storm water ordinance would have addressed this problem.

### **Other Business**

Mark stated that the State of NH is currently revamping the Site Specific Rules to bring them more in line with the Construction General Permit requirements.

There were some questions as to how many catch basins needed to be cleaned in a year to meet the minimum control of Good Housekeeping. Derry tries to get all basins done in a three-year cycle. Manchester does the CBs around the pond on a semi-annual basis, but the other areas of the City are broken down into eight sections. A private contractor is hired to work in one section annually. There is a chance that some CBs are not cleaned but once in an eight-year period. There were questions on how one can identify the worse areas in a town.

Some towns and the NHDOT are moving away from SFs and using bark mulch berms or mulch tubing. This is as effective as SFs and can be spread and left at the end of the project.

Mark had a request that all towns that have their storm water mapping and outfalls on GIS that the state would like a copy to incorporate into the overall State GIS system. Some of the towns sell their GIS information to developers, and if the information is made available on the state GIS site, these developers would get that information for free, never having contributed to the cost of obtaining the information. Mark will check into the GIS system to see if certain town layers can be only available to the state for reference work. He will get back to the group at a later meeting date.

Derry brought in a sheet of stickers they had developed for the grade schools. There were 16 stickers to the sheet all having to do with storm drains and storm water quality. These are passed out at the schools during presentations or other water quality events.

**Next Meeting Date**

Meeting adjourned at 3:40 PM. The next meeting is scheduled for Wednesday, February 15, 2006 at 1:30 PM. The agenda will be emailed a few weeks before the meeting. The meeting will be held at the EPD Administration Building in Manchester.

## Phase II Storm Water Meeting

Minutes of the 2/15/06 Meeting held at the Town Office in Londonderry, NH at 1:30 PM

### Present:

Tom Fatcheric	–	Goffstown, NH	<a href="mailto:tfatcheric@ci.goffstown.nh.us">tfatcheric@ci.goffstown.nh.us</a>
Rick Cantu	-	Manchester, NH	<a href="mailto:rcantu@ci.manchester.nh.us">rcantu@ci.manchester.nh.us</a>
Jim Stanford	-	Bedford, NH	<a href="mailto:jsanford@ci.bedford.nh.us">jsanford@ci.bedford.nh.us</a>
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### Annual Meeting Update

The annual meeting is set for May 9, 2006 at the Center of New Hampshire. The Committee chairs are working at finalizing the agenda and topics for discussion. There will be a mailing for the meeting that will be sent out in a few weeks from Barbara McMillian of the NHDES. The reservations were set for 50 people. There will be a \$20 to \$25 charge for the meeting. This covers the cost of a continental breakfast, sit down lunch and afternoon drinks.

### Ordinance Updates

The Town of Goffstown has a draft Ordinance that they sent around to the membership for review. The basis of the Ordinance comes from the EPA model used in Monterey, California; some of it is from Portsmouth, NH and other parts from the Manchester draft. The New Hampshire Municipal Association reviewed the Ordinance and said that there is not enabling legislation to enact this type of Ordinance. Rick stated that it is appropriate to have the Ordinance as part of the Public Works or Wastewater Ordinance, but that there was no legislation to form a Storm Water Utility.

Rick went over the discussions of the meeting he had with HTA and Bill Gabler of Governmental Consultants (a legislative lobbyist) on what was needed to get enabling legislation enacted to allow cities and towns to form storm water utilities. This will be discussed at the annual meeting in May.

The Manchester Ordinance is still waiting to be forwarded to the bills on second reading.

Mark stated that the Owner of the project and the Operator typically file the NOI. The owner being the person who owns the plans and the operator being the contractor on the site. The state does not file a separate NOI when their right-of-ways are being encroached by city/town or development projects. It is up to the Owner and Operator to file the NOIs. This would be a good question to forward to Thelma.

**Merrimack River Study**

Rick gave the group a copy of the draft report done by the Army Corps of Engineers and CDM in regards to the Merrimack River Water Quality Study. As the entire group has brooks, rivers or ponds that drain to the Merrimack it may potentially impact everyone's storm water programs.

The findings revealed that the only consistent water quality violation in dry weather and wet weather is bacteria. The Combined Sewer Overflow impact is quite small when compared to the non-point source impacts. If the communities along the Merrimack River watershed reduced the non-point bacterial impacts by 20% the river would come into compliance with water quality standards.

The study indicates that the phase I Combined Sewer Overflow program implementation coupled with the bacterial reductions from the non-point source contributions would be the most cost-effective method of achieving compliance in the Merrimack River watershed and the contributing tributaries.

The study indicates that the non-point issue (storm water) will become the focal point in the future in regards to the Merrimack River meeting water quality standards and that every community with a program will need to spend more time and resources if their tributaries are contributing to the water quality problems in the Merrimack.

**Issues with Local Compliance**

Tom said that he is getting plans for erosion and sediment controls that state these practices will be applied to the roads and right-of-ways, but not applied to the individual house lots. He believes this is because a developer gets the plans then sells the lots off to individual developers. Tom has pushed to have the entire area outlined in the plans covered under the E&S controls.

Yanusz had a question if the towns had to file an NOI when a development encroaches over an acre of land in town right-of-ways. Some discussion ensued, but it was thought that when towns have projects and they impact individual homeowner right-of-ways that we don't make each homeowner file a separate NOI.

Mark asked how people were dealing with post-construction minimum requirements after the home depots; food chains etc. put in their ponds or sediment structures. The response that currently none of the group is following up on these installations. Part of Thelma's afternoon session will be on post-construction controls and what the EPA hopes to see a follow up.

Rick updated the group on the enforcement activities at the Pointe. Due to the political pressures the issues at the point have been dropped.

Rick also stated that it is a good idea for the towns to keep a copy of all the SWPPPs that are developed for the corresponding NOIs. The EPA does not approve the SWPPPs no



does the EPA have any requirement of how each Storm Water Pollution Prevention Plan question needs to be answered. The only requirement for a Storm Water Pollution Prevention Plan is that it meets the minimum outline in the storm water federal regulations and that a copy be kept on site. Rick explained how material that is included in a Storm Water Pollution Prevention Plan is not always the same material that is presented later on down the road when enforcement activity is begun. It is easy for a site operator to change an onsite Storm Water Pollution Prevention Plan especially if no other copy exists.

Manchester has had some issues in regards to the coordination and enforcement between departments. Sometimes building approves lots with no knowledge forwarded to planning or highways. Planning will allow changes with no notification to building or Highways. There are times when zoning allows a variance to a building site and neither planning, building nor highways is notified. Rick gave an example where a variance was given to a site and there are issues with water coming out into the roadway and freezing. The highway has notified building with no response. Alan stated that under RSA 236:A a homeowner is not allowed to let water drain to the street and pose a safety hazard.

Bedford has an issue with minimum buildable lot size. It is 22,000 square feet requirement and the issue is to make sure that exists on the plans that are submitted. Jim gave an example of land that was underneath a power line was counted as buildable area. This is the major compliance issue in Bedford.

#### **Training – Construction Practices: The Good, the Bad and the Ugly**

This meeting's training was on specific BMP performances. The training manual that is being used is called "The Practice of Watershed Protection. The highlights of the Construction Practices article (Article #60) are listed below:

- North Carolina sent experts out to view over 1,000 sites for proper erosion and sediment controls (ESC) installation. The practices were rated on a scale from 1 through five;
- Eleven construction practices were consistently reviewed and only three were considered good to excellent (sediment basins, sediment traps and riprap stabilized channels);
- The worst performers were brush barriers and hay bales;
- A majority of the failures were due to poor installation with poor maintenance running a close second;
- An eye-opening finding was the number of construction practices that were never installed even though they were shown on the plan. More than a quarter of the two most commonly prescribed construction practices (storm drain inlet protection [SDIP] and silt fence) were never installed;
- Two most favored practices, SDIP and silt fences, were most frequently installed in a poor manner;
- 29% of the silt fences did not use the proper fabric material;
- 40% of the silt fences were not properly installed;

- 42% failed to use reinforcing wire;
- 33% did not anchor the silt fences properly;
- 22% did not properly space the silt fence stakes;
- Nearly half of the sediment traps and one fourth of the sediment basins failed due to poor maintenance during construction activities;
- Some installation problems are due to developers trying to save a buck, but most are due to lack of training of the people installing the BMPs;
- The best way to assure good implementation is to pay more attention on plan review and implementation;

Survey tables were included with the handouts.

### **Other Business**

Mark stated that the Coastal Communities are developing an Illicit Discharges Manual vial a 319 Grant. They are using a Maine model program as a basis for the development. There will be a round-table meeting June 6<sup>th</sup> somewhere in the Seacoast region to go over the draft manual. The manual will include inspection protocol and laws.

Mark stated that Thelma had responded to the NHDOT annual report submitted in 2004. No other community received any formal response in regards to that report. NHDOT is going to shift from the training/outreach materials and do more on the baseline mapping. NHDOT wants to use their current asset management system to track what has been done.

Mark also stated that DES is working on TMDLs for chlorides. The Conservation Law Foundation has sued the State to stop the I-93 widening. The group still believes that chlorides are a big issue from water softeners. Liz stated that she used 2 to 3 fifty-pound bags monthly for water softening. The estimate is that about 1,000 pounds is used per household. Janusz uses that also in Bedford and stated that all his neighbors have water-softening units also. The reduction of road salt may not solve the chloride issue until the impact of the water softening discharge is known.

Rick passed out a copy of a brochure that will be included with the 22,500 bills sent to customers in Manchester. The city was looking to reissue the "Pet Waste" brochure, but the costs through the City Clerk's office was more expensive than the mailing with the bill. The company that sends the bills will do additional stuffing of the brochure as part of the initial mailing costs. The brochure covers steps the residents can take to reduce water use and pollutant runoff, pet waste information, statistics on how Americans pollute, information on the storm water hotline and information on the storm drain-stenciling program. Previous to this mailing these were all separate topics sent out in notifications.

### **Next Meeting Date**

Meeting adjourned at 3:40 PM. The next meeting is scheduled for Wednesday, February 15, 2006 at 1:30 PM. The agenda will be emailed a few weeks before the meeting. The meeting will be held at the EPD Administration Building in Manchester.